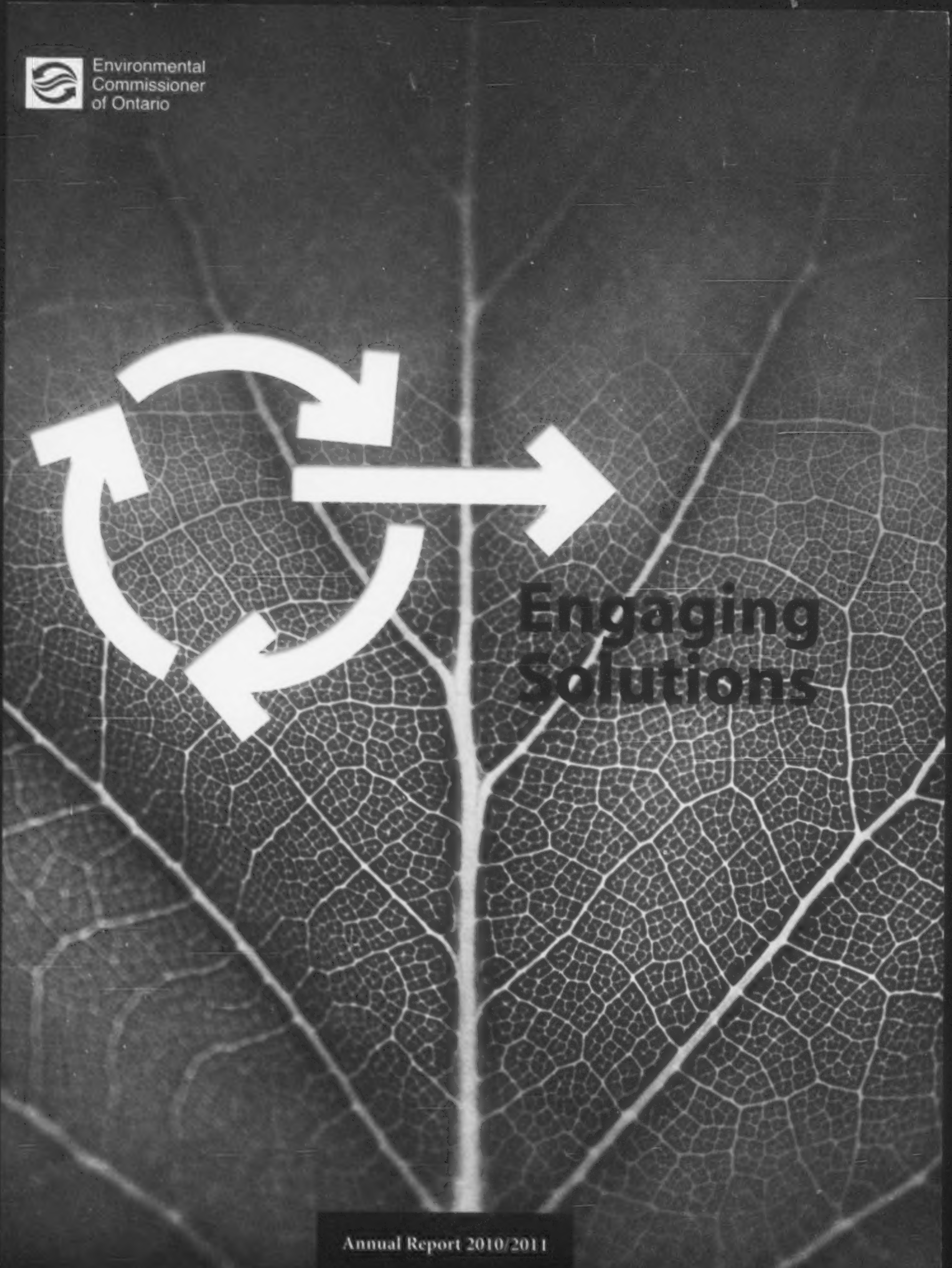
Environmental
Commissioner
of Ontario



Engaging Solutions

Annual Report 2010/2011

"The Eyes of the Future are looking back at us and they are praying for us to see beyond our own time."

–Terry Tempest Williams

Environmental
Commissioner
of Ontario

Commissaire à
l'environnement
de l'Ontario

Gord Miller, B.Sc., M.Sc.
Commissioner

Gord Miller, B.Sc., M.Sc.
Commissaire

November 2011

The Honourable Speaker
of the Legislative Assembly of Ontario

Room 180, Legislative Building
Legislative Assembly
Province of Ontario
Queen's Park

Dear Speaker:

In accordance with Section 58 of the *Environmental Bill of Rights, 1993*, I am pleased to present the 2010/2011 Annual Report of the Environmental Commissioner of Ontario for your submission to the Legislative Assembly of Ontario.

Sincerely,

Gord Miller
Environmental Commissioner of Ontario

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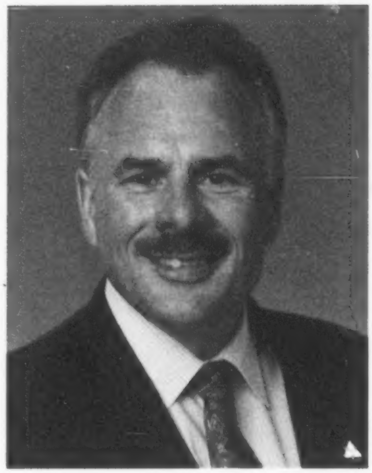


Commissioner's Message:

Engaging Solutions

Have you noticed that as a society we seem to have lost momentum on dealing with environmental issues? There is no shortage of talk about our current and impending challenges of climate change, high energy costs, water shortages and loss or disruption of our biodiversity, but there doesn't seem to be much actually happening to address these problems.

Probably the best example of such lack of progress is the international stalemate on climate change, but I see this pattern of inaction reverberating through a range of topics in this report. Why can't we get on with things? We don't see ourselves as having a culture of inaction and procrastination. Yet that is how a remote impartial observer might quite reasonably characterize us. Perhaps something is not working in our policy system. I know the word policy evokes glazed eyes and bored yawns from many people but it should not be that way. Policy is about finding a way forward through unknown and challenging territory. Good policy, like a good path through a dark wood, allows you to progress with confidence toward a destination or objective.

Developing and applying policy for an environmental issue is, in its essence, a simple process. First you recognize that there is an issue or problem and define its nature. Then you analyze all aspects of the problem in order to get a level of understanding that will allow you to evaluate possible approaches or actions and perhaps figure out some metrics to measure progress. And in a third stage you take action. You try to do things to solve the problem based on what is known. If you follow through on those three steps – recognize, analyze and engage – the process leads logically to a solution.

It seems we often get stuck at the second step or sometimes the first. Take climate change for example. Over decades of research and international scientific consensus we have certainly recognized and defined the problem. All aspects of the methods of reducing our greenhouse gas emissions have been analyzed and an array of actions proposed. But then it stops; at the international level we engage no solutions. Instead we respond to voices that say that they don't believe in climate change by going back to the recognition stage to debate and explain it all again. And, if it looks like progress is being made toward taking action other voices say that the proposed solutions won't work or are too costly and the discussion reverts back to start the analysis again.

> *"Only when you engage solutions by trying something does the full potential of human ingenuity and creativity kick in."*

Some people really are very good at casting doubt or confusion in the public's mind on the nature of environmental problems and their possible solutions. After all, they are often complicated issues. And, some of these people may be legitimately sceptical. But there are others who are public relations professionals and are deliberately confusing the issues to serve the agenda of one or another vested interest. These people understand the policy process and are adept at resetting the discussion back to the recognition and analysis stage. Their job is to stop society from engaging solutions. And, regrettably and increasingly, we let them.

I don't know why this short circuiting of our policy regime exists. Perhaps it stems from a lack of champions to lead the charge on some of these important environmental initiatives. Perhaps there is some failing in our media system such that the public remains uninformed on the truth of these matters. Perhaps the public is just too overwhelmed by the complexity of today's society and can't deal with these concerns in a thoughtful way. Perhaps it is all of the above. But we must get over this malaise because the environmental challenges of our times are not going away.

We have to find a way to get to a point of action on these issues. Only when you engage solutions by trying something does the full potential of human ingenuity and creativity kick in. Certainly there will be errors, but innovation feeds on errors by spawning new ideas and new approaches. We learn by doing, and doing involves failing but it also involves opening our eyes to new solutions. And some of those solutions may be engaging indeed.

Gord Miller
Environmental Commissioner of Ontario

Part 1 – The *Environmental Bill of Rights, 1993*

The *Environmental Bill of Rights, 1993* (*EBR*) gives the people of Ontario the right to participate in decisions that affect the environment made by ministries prescribed under the Act. The *EBR* helps to make ministries accountable for their environmental decisions, and ensures that these decisions are made in accordance with the goal all Ontarians hold in common – to protect, conserve and restore the natural environment for present and future generations. The provincial government has the primary responsibility for achieving this goal, but the *EBR* provides the people of Ontario with the means to ensure it is achieved in a timely, effective, open and fair manner.

The *EBR* gives Ontarians the right to:

- comment on environmentally significant ministry proposals;
- ask a ministry to review a policy, act, regulation or instrument;
- ask a ministry to investigate alleged harm to the environment;
- appeal certain ministry decisions; and
- take court action to prevent environmental harm.

Statements of Environmental Values

Each of the ministries subject to the *EBR* has prepared a Statement of Environmental Values (SEV). The SEV guides the minister and ministry staff when they make decisions that might affect the environment. Each SEV should explain how the ministry will consider the environment when it makes an environmentally significant decision, and how environmental values will be integrated with social, economic and scientific considerations. Each minister makes commitments in the ministry's SEV that are specific to the work of that particular ministry.

The Environmental Commissioner and the ECO Annual Report

The Environmental Commissioner of Ontario (ECO) is an independent officer of the Legislative Assembly and is appointed for a five-year term. The Commissioner reports annually to the Legislative Assembly – not to the governing party or to provincial ministries.

In our annual reports to the Ontario Legislature, the Environmental Commissioner reviews and reports on the government's compliance with the *EBR*. The ECO and staff carefully review how ministers exercised discretion and carried out their responsibilities during the year in relation to the *EBR*, and whether ministry staff complied with the procedural and technical requirements of the law. The actions and decisions of provincial ministers are monitored to see whether they are consistent with the ministries' SEVs.

A glossary of key terms used in our annual reports is available on the ECO website at www.eco.on.ca. Finally, supplements to our annual reports provide further detail on *EBR* activity during the reporting period.

The Environmental Registry

The Environmental Registry is the primary mechanism for the public participation provisions of the *Environmental Bill of Rights, 1993*. The Registry is a website where ministries are required to post notices of environmentally significant proposals. The public has the right to comment on the proposals before decisions are made, and ministries must consider these comments when they make their final decisions and explain how the comments affected their decisions. For complete information on the Environmental Registry and the ECO's evaluation of its use by the prescribed ministries, see Part 8 of this Annual Report.

The Environmental Registry can be accessed at: www.ebr.gov.on.ca

Ministries Prescribed Under the *EBR*

Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

Ministry of Consumer Services (MCS)

Ministry of Economic Development and Trade (MEDT)

Ministry of Energy (ENG)*

Ministry of the Environment (MOE)

Ministry of Government Services (MGS)

Ministry of Health and Long-Term Care (MOHLTC)

Ministry of Labour (MOL)

Ministry of Municipal Affairs and Housing (MMAH)

Ministry of Natural Resources (MNR)

Ministry of Northern Development, Mines and Forestry (MNDMF)

Ministry of Tourism and Culture (MTC)**

Ministry of Transportation (MTO)

*In August 2010, the Ministry of Energy and Infrastructure (MEI), which is prescribed under the *EBR*, split into two ministries: the Ministry of Energy (ENG) and the Ministry of Infrastructure (MOI). A regulation proposal on the Environmental Registry (#011-2697) proposes to amend O. Reg. 73/94, made under the *EBR*, to change the name of MEI to ENG.

**While the Ministry of Tourism and the Ministry of Culture are prescribed under the *EBR* as separate ministries, these ministries have now merged. A regulation proposal on the Environmental Registry (#011-2697) proposes to amend O. Reg. 73/94 to prescribe the merged ministry as MTC.

1.1 The Environmental Commissioner's Recognition Award

Each year, the ECO invites ministries to submit programs and projects for special recognition. The ECO's Recognition Award acknowledges those ministries that best meet the goals of the *Environmental Bill of Rights, 1993* (*EBR*) or use the best internal *EBR* practices. This past year, five ministries responded to our call for nominations, submitting a total of 15 projects for consideration. An arm's-length panel reviewed the submissions.

This year's ECO Recognition Award is being presented to staff of the Ministry of Transportation for the ministry's use of a bioretention system and crumb rubber modified asphalt at its Queen Elizabeth Way (QEW highway) carpool lot at Ontario Street in Beamsville. The ECO applauds this project for its benefits on three environmental fronts: managing stormwater; diverting waste; and promoting carpooling. Bioretention is a low-impact development technique that aims to mimic the natural hydrologic cycle; it infiltrates, filters, evaporates and detains runoff, while treating pollution at its source. Bioretention also enhances aesthetics, acts as habitat for birds and other wildlife, improves air quality and reduces the urban heat island effect. The ministry has partnered with the University of Guelph to monitor, analyze and report on data from the bioretention cells for the next two years. Additionally, half of the surface layer of the site contains rubber modified asphalt; this is equivalent to about 624 tires that would otherwise have been scrapped. This project serves to provide valuable lessons that can be used by municipalities, other agencies and the public sector.

Recipients of the ECO's Recognition Award to Date

2000: Septic System Program (MMAH)

2001: Eastern Massasauga Rattlesnake Project for Highway 69 Reconstruction (MTO)

2002: Oak Ridges Moraine Strategy (MMAH)

2003: Ontario's Living Legacy (MNR)

2004: Environmental Monitoring (MOE)

2005: Conservation of Alfred Bog (MNR, MOE, MMAH)

2006: Southern Ontario Land Resource Information System (MNR)

2007: *No submissions found to be acceptable*

2008: Zero Waste Events at the Metro Toronto Convention Centre (MTC)

2009: Project Green (MOE)

2010: Green Power for the Summer Beaver Airport (MTO)

2011: Bioretention Cells and Rubber Modified Asphalt at the QEW Ontario Street Carpool Lot, Beamsville (MTO)

1.2 Education and Outreach

The ECO is reaching out to the Ontario public in a variety of ways. Our website at www.eco.on.ca continues to be the main source of information about the *Environmental Bill of Rights, 1993* (*EBR*) and the activities of the ECO, but now the public can stay in touch through our ECO blog, Facebook page and Twitter feed as well.

Every year the Public Information and Outreach Officer at the ECO receives well over a thousand queries on a variety of environmental concerns, and answers questions from members of the public who are interested in exercising their rights under the *EBR*. In fact, during the 2010 calendar year close to 1,400 enquiries were handled. As the mandate of the ECO now includes reporting on the province's progress in reducing greenhouse gas emissions, as well as energy conservation activities within Ontario, the number of individuals with enquiries continues to rise.

The ECO also manages an active outreach program, staffing exhibits at conferences, symposia and other events, and sharing information about the *EBR* with new and targeted audiences. ECO staff give targeted presentations at various conferences throughout the year. The Public Information and Outreach Officer at the ECO is available to make presentations on environmental rights under the *EBR* to groups or classes who wish to learn more. For more information, contact us at commissioner@eco.on.ca.

1.3 The Environmental Commissioner's Annual Site Visit

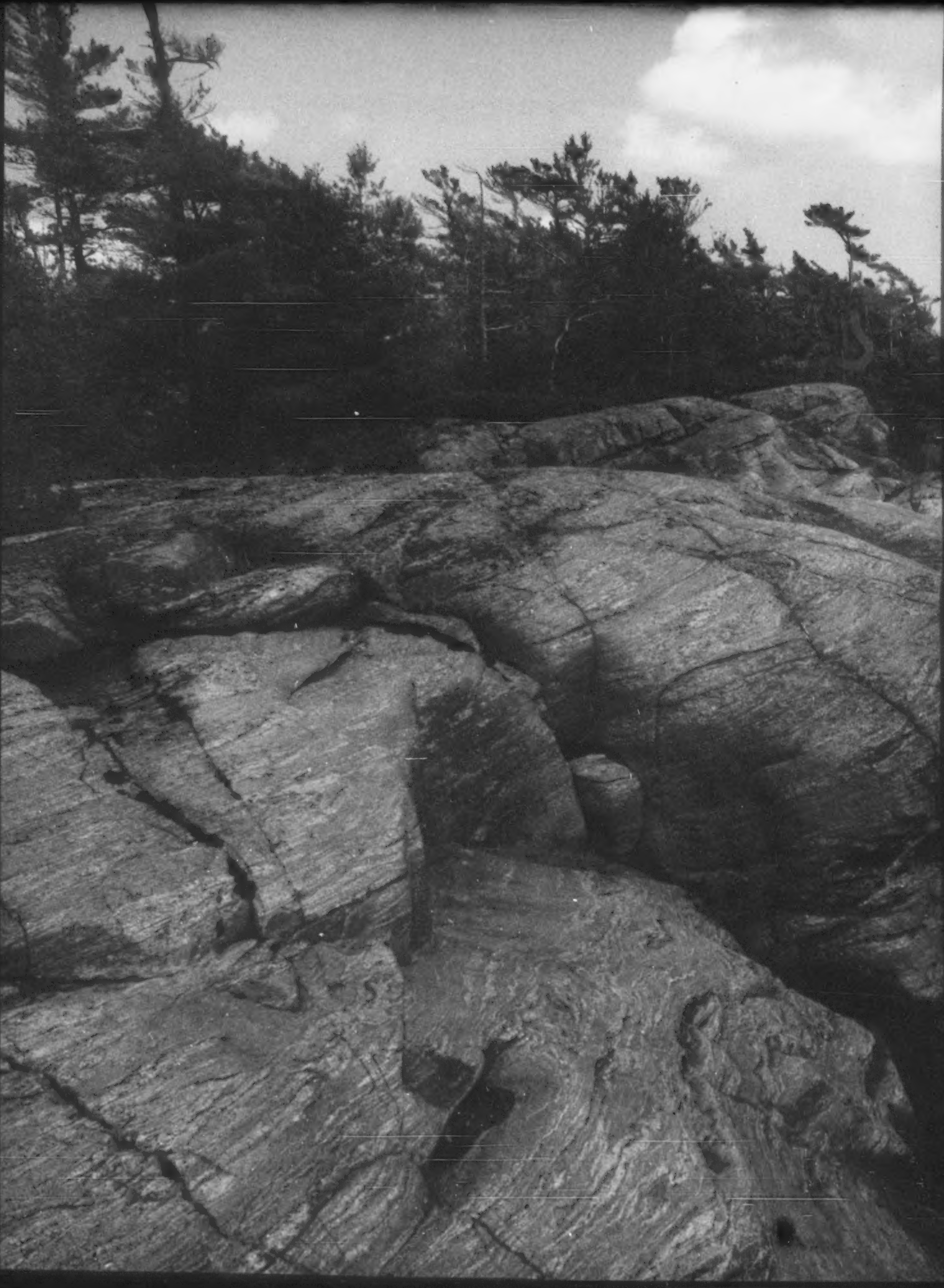
Throughout the year, the Environmental Commissioner makes many presentations, speeches and appearances across the province. In addition, Commissioner Miller tours a different part of Ontario for a few days each summer to learn about the environmental issues, challenges and successes unique to that particular region. These site visits give him the opportunity to meet with government staff, industry representatives, environmental organizations and the public. He also gets to see – firsthand and on the ground – the results of local research, conservation and environmental initiatives. These trips provide the office of the ECO with a broader and more informed perspective when reporting on issues in our annual reports. Past site visits have included tours of: the Algoma Steel plant (now Essar Steel Algoma Inc.) in Sault Ste. Marie; the electric power generating facility in Thunder Bay; conservation lands on Pelee Island; and a Niagara Falls landfill that converts landfill gas to energy.

On this year's site visit, Commissioner Miller visited Algonquin Provincial Park, meeting with staff from Ontario Parks and wildlife researchers with the Ontario Ministry of Natural Resources (MNR). Commissioner Miller has reported to the Legislature in the past on Algonquin Provincial Park, the flagship park within Ontario's protected areas system, as well as the importance of managing protected areas for ecological integrity. Many of the ECO's reports highlight the successes of Ontario's parks system and the challenges that must be tackled by the government to safeguard these special places.

Highlights of the Environmental Commissioner's June 2011 trip to Algonquin include:

- Visiting the Algonquin Visitor Centre and learning about the challenges of providing visitor services for the hundreds of thousands of visitors that enjoy the park each year;
- Hearing about Algonquin's extensive interpretative program, including its successful public wolf howls, which have been running since 1963 and have educated more than 150,000 visitors;
- Learning about MNR's ground-breaking wolf research on the unique eastern wolves in and around Algonquin Provincial Park;
- Hearing the results of MNR's extensive aquatic and fisheries research, including research on the profound ecological impact that accidentally released smelt may have on Algonquin lakes;
- Taking a guided tour, led by staff from the Algonquin Forestry Authority, of timber harvesting sites in the park;
- Meeting with Laurentian University graduate students at their field study sites and hearing about their turtle and amphibian research; and
- Learning about the Integrated Waste Management System that Ontario Parks has implemented throughout the Highway 60 corridor of Algonquin Provincial Park, which has doubled waste diversion rates in the park in only a handful of years.

Commissioner Miller sincerely thanks the ministry staff, researchers, foresters and graduate students who took the time to share with him their research, work and enthusiasm for Ontario's flagship provincial park.



Part 2 – Engaging Provincial Solutions

Big problems call for big solutions. And big solutions require co-operation, collaboration and comprehensiveness. In this part of the Annual Report, the ECO highlights several environmental issues that require thinking, planning and engaging solutions at the provincial scale.

First, we consider opportunities for improving the health of the Great Lakes. Ontario has incredible potential to show leadership and make progress on this multi-jurisdictional issue. However, to even keep up with encouraging developments in the United States on this issue, the Ontario government must engage the many solutions that lie within its control.

Next, the ECO reviews the *Far North Act, 2010*, which puts in motion the government's promise to engage with First Nations and conduct land use planning in Ontario's Far North. Within this article, the ECO also discusses two subjects related to planning in the Far North: concerns that the province's energy policy could allow hydroelectric development to compromise land use planning; and the government's new Growth Plan for Northern Ontario, 2011, which shall guide decision making and investment planning in northern Ontario over the next 25 years.

2.1 Engaging Solutions on the Great Lakes

Introduction

A satellite image can speak a thousand words. As viewed from space, southern Ontario is bordered, defined and characterized above all by the Great Lakes. They provide fresh water for the millions of people who live and work in the basin, a home for a wide variety of wildlife, and the opportunity for numerous recreational pursuits from fishing and boating to swimming and lazing on the beach. Sadly, the Great Lakes have long shown unmistakable signals of ecosystem stress and the imprint of our steadily deepening human footprint.

In the early 1970s, eutrophication in Lake Erie reached a crisis point. Later that decade, deformities and rising contaminant levels in fishes and fish-eating birds became prominent concerns. In the 1980s, attention focused on contaminated sediments and local hot spots, termed "Areas of Concern." The latest binational report on the State of the Great Lakes highlights a now-familiar litany of environmental problems: ongoing damage by invasive exotic species; deteriorated shoreline habitats; a worrying return of algal fouling in nearshore areas; and worsening trends in beach closures along the shores of Lake Erie and Lake Ontario.

Fixing the worst trouble spots has long been the focus of Great Lakes policy in Canada. This remediation mindset has been reflected in the two key agreements that continue to dominate Great Lakes discourse. At the binational level, Canada-U.S. interactions have been guided since 1972 by the periodically revised Great Lakes Water Quality Agreement (GLWQA). Within Canada, the federal government and Ontario collaborate under the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA), which has been revised on a roughly five-year cycle since 1971. The 2007-2010 COA has been extended twice, and is set to expire in June 2012. The ECO will review the next COA once a decision has been posted on the Environmental Registry.

Site-specific remediation can be an effective tool for tackling the high variability within Great Lakes ecosystems and the need to tailor responses to local realities. But the COA's focus on isolated trouble spots seems to have left little creative energy available for watershed-based thinking or proactive, preventative approaches. Lengthy renegotiations of both the GLWQA and the COA, involving multi-layered, multi-jurisdictional governance and management structures, have also threatened to paralyze progress. In addition, funding has been a constant issue (see box on COA funding).

COA Funding Nowhere Near Adequate

Chronic underfunding has been a key weakness of the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA), with the dollars committed disproportionate to the scale of the challenges. Since 1987, governments have agreed on the need for clean-ups at 17 Canadian Areas of Concern. So far, only three such areas have been restored and formally delisted. The problems at the remaining sites are complex and expensive: in 2007 Environment Canada estimated that remediation costs total $3.5 billion. Since 2002, Ontario has allocated, on average, $10 million per year in operational project funding towards Great Lakes protection. Ontario has also pledged some additional project-specific funds mainly towards Areas of Concern; in August 2007, Ontario pledged $30 million towards cleaning up heavily contaminated sediments in Hamilton Harbour – a project estimated to cost up to $120 million.

Outside of the COA framework, Ontario has committed $653 million since 2007 toward upgrades of municipal wastewater infrastructure. Older systems desperately need to be updated. For example, five municipalities on the Ontario side of the Great Lakes (including Cornwall and Owen Sound), which still rely on primary sewage treatment, are scheduled for upgrades by 2015. The scope of the need, however, is much larger; the backlog for water and sewer repairs in Ontario has been estimated at $18 billion by the Water Strategy Expert Panel's 2005 report, entitled Watertight, that was commissioned by the province.

Ontario's Opportunities to Lead

The flaws of the Great Lakes multi-jurisdictional governance structures have been exhaustively examined and reported on by other reviewers and oversight agencies. Notwithstanding these problems, there is still enormous potential for progress and provincial leadership. Ontario has assembled essentially all the regulatory tools necessary for taking action on the Canadian side of the Great Lakes. Meanwhile, on the American side, a newly invigorated restoration program for the Great Lakes is showing what can be done (see box on U.S. actions).

U.S. Action on the Great Lakes

Impressive momentum and strong funding commitments characterize recent Great Lakes actions on the American side of the border. In 2009, U.S. President Obama proposed a five-year action plan to restore the lakes, involving many federal agencies and led by the U.S. Environmental Protection Agency (U.S. EPA). Congress then approved $475 million as the first-year (2010) installment for the Great Lakes Restoration Initiative (GLRI). Further, the plan envisions yearly funding installments through 2014, amounting to $2.2 billion – the largest investment in the Great Lakes in two decades. The GLRI funding comes on top of ongoing federal Great Lakes programs and funding for water and sewer infrastructure.

This unprecedented action plan features outcome-oriented goals, measurable interim benchmarks and a strong focus on accountability. Eligible projects must compete for centrally administered GLRI funds and must pass rigorous screening criteria. As part of the emphasis on accountability, the GLRI website describes almost 600 funded projects, including several Canadian-based projects.

The GLRI increases pressure on Canadian authorities to put more money on the table. In late 2010, the U.S. EPA voiced expectations that Canada invest proportionally in the Great Lakes. Based on Canada's population in the Great Lakes basin, the U.S. EPA says Canada's investment should approximate one-third to one-half of the U.S. commitment.

While it will require some serious funding commitments for Ontario to shift to a proactive watershed approach on the Great Lakes, the province and the Ministry of the Environment (MOE), in particular, already have the power to leverage their existing legislation, policies and programs to the task. They need not wait upon a renegotiation of the COA. Unilaterally, Ontario could implement the following:

- Expand the Lake Simcoe protection approach to the Great Lakes;
- Get serious about combined sewer overflows;
- Report on pollutant loadings;
- Build full-cost recovery into the water taking charge;
- Unleash the potential of the *Clean Water Act, 2006* to protect Great Lakes waters;
- Build on successes like the cosmetic pesticides ban;
- Ban Asian carp imports, dead or alive;
- Defend wetlands;
- Curb agricultural runoff;
- Harness a broader range of ministries to deliver Great Lakes restoration; and
- Champion the Great Lakes.

Expand the Lake Simcoe Protection Approach to the Great Lakes

Lake Simcoe has a highly developed watershed and has long suffered from excessive phosphorus loadings, leading to algal blooms, fishery collapses and summer "dead zones" in its deep waters. Over the past several years, MOE has rolled out ambitious legislation and policy that recognize the connections between land uses around Lake Simcoe and water quality, and aim to restore ecological health to the lake waters and the watershed overall. The ECO's 2009/2010 Annual Report recommended that Ontario adopt such integrated watershed planning, not just for selected trouble spots, but as a general rule.

Get Serious about Combined Sewer Overflows

Over 100 municipalities in Ontario have combined sewer systems that allow dilute untreated sewage to overflow into Great Lakes waterways during storms. Such overflows can amount to hundreds of millions of litres over a typical ice-free season and contribute significant loads of pathogens, nutrients and other pollutants to waterways. An MOE policy, dating from 1995, states that municipalities with combined sewer systems will be expected to develop control plans. The ECO's 2004/2005 Annual Report encouraged the ministry to review municipal control plans, to stress the need for compliance, and to learn from the U.S. approach to regulating this major pollution source. However, as of December 2010, only about half of Ontario's municipalities with combined sewers had completed plans to address sewage bypasses or overflows. Moreover, MOE still does not review such plans as part of its normal business practice. There is scope to greatly strengthen this outdated approach to combined sewer overflows, by setting deadlines for control plans and implementation and by reporting publicly on loadings trends.

Report on Pollutant Loadings

MOE's restoration approach for Lake Simcoe includes measurable targets and timeframes for reducing phosphorus, improving oxygen levels, restoring natural vegetation and other parameters. The Lake Simcoe phosphorus reduction strategy is supported by a detailed phosphorus loading inventory, with reduction targets apportioned to contributing sectors. Unfortunately, such crucial loadings inventories are no longer available for the Great Lakes. MOE used to assemble data and report loadings for municipal wastewater plants, but stopped after 1991. The ECO's 2009/2010 Annual Report recommended that the ministry publish such reports annually.

Build Full-Cost Recovery into the Water Taking Charge

Ontario Regulation 450/07 – Charges for Industrial and Commercial Water Users, made under the *Ontario Water Resources Act*, establishes a partial user-pay system for some provincial water management programs. But it applies to only a very small portion of water users, representing less than 2 per cent of the total volume taken under permit. The charge rate is also very low, and the estimated annual revenue of about $18 million covers only a small portion of the province's full needs for water management. MOE could expand this user-pay system to help fund Great Lakes restoration work. The ECO's 2007/2008 Annual Report recommended that MOE establish fees proportionate to the full costs of water management.

Unleash the Potential of the *Clean Water Act, 2006* to Protect Great Lakes Waters

The *Clean Water Act, 2006* (*CWA*) focuses on protecting drinking water sources. MOE publications have stressed that Great Lakes sources are within the scope of this legislation – appropriately so, since more than 70 per cent of Ontarians rely directly on the Great Lakes for their drinking water. The *CWA* enables the inclusion of powerful "Great Lakes policies" within local source protection plans, the impacts of which could extend to requiring amendments to official plans and zoning by-laws. Where such Great Lakes policies exist, municipalities would have a duty to comply, and prescribed site-specific permits and approvals would have to conform. Unfortunately, the potential of this tool to trigger more sustainable land use practices within Great Lakes watersheds remains theoretical unless the Minister of the Environment establishes mandatory targets for protecting the Great Lakes as a drinking water source and directs source protection authorities to include policies to achieve those targets in source protection plans. To date, this has not occurred. The ECO's 2006/2007 Annual Report encouraged the ministry to establish such targets.

Build on Successes like the Cosmetic Pesticides Ban

In April 2009, Ontario's ban on the sale and use of cosmetic pesticides took effect. Impressively, improvements in stream water quality already have been documented; an MOE study comparing before-ban and after-ban pesticide concentrations in urban streams found levels of several pesticides had dropped by up to 90 per cent. In our 2008/2009 Annual Report, the ECO urged MOE to consider further phase-outs of exempted pesticide uses, a move that could help prevent harmful pollutants from entering the Great Lakes – a key priority under the COA. MOE also could update the effluent limits under the Municipal-Industrial Strategy for Abatement (MISA) program controlling industrial discharges, as suggested in Part 7.4 of this Annual Report.

Ban Asian Carp Imports, Dead or Alive

The Ministry of Natural Resources (MNR) is a signatory to the COA, and responsible for guarding against invasive species. Asian carp species – and their anticipated effects on aquatic habitat, the food web and the lakes' $7 billion fishing industry – arguably represent the gravest invasive species threat to the Great Lakes. Fearing this threat, in January 2010 Ontario supported a lawsuit by Michigan demanding that the State of Illinois and the U.S. Environmental Protection Agency immediately close the Chicago Sanitary and Ship Canal, the only shipping link between the Mississippi River system (which is infested with Asian carp) and the Great Lakes. Despite the enormity of this demand, Ontario itself has failed to take all possible precautions. Although Ontario prohibits the possession of live Asian carp, an illegal market persists and poses ongoing risks. Perhaps MNR should consider raising penalties or prohibiting outright the possession of Asian carp, dead or alive.

Defend Wetlands

Wetlands on the Great Lakes continue to be lost and degraded as a result of land use, development and nutrient loadings. While MNR has numerous plans and programs to protect and restore wetlands in the Great Lakes basin, these measures are largely necessary because Ontario's Provincial Policy Statement, 2005 (PPS) does not adequately prevent continued degradation. MNR touts the PPS as "one of the primary tools used to protect wetlands in Southern Ontario." However, the ECO concluded in our 2008/2009 Annual Report that "the PPS provides insufficient measures to prevent the continued degradation and loss of natural features, such as wetlands." Moreover, any protection afforded to wetlands by the PPS requires them first to be evaluated by MNR as provincially significant. Unfortunately, MNR's effort to evaluate wetlands has not been consistent across the province.

Curb Agricultural Runoff

The Ministry of Agriculture, Food and Rural Affairs (OMAFRA), a long-time signatory to the COA, oversees the province's roughly 57,000 farm operations. The ministry calculates that livestock manure and other farm sources deposit about 400,000 tonnes of nitrogen and 180,000 tonnes of phosphorus onto Ontario farm lands annually. Thus the ministry has a significant challenge to encourage practices that maximize farm productivity while minimizing the environmental effects of farm runoff on watersheds. Management practices – such as creek-side vegetated buffers, fencing cattle, shelter belts and cover crops – all need to be part of the solution. However, implementing these changes in the field has been slow. Despite 20 years of raising awareness and hundreds of on-farm projects in the Lake Simcoe watershed, farms are still responsible for about 25 per cent of total waterborne phosphorus loadings (which is more than three times the combined inputs from local municipal sewage treatment plants). The phosphorus control programs remain disproportionately small compared to the size of the loadings. For example, one landowner assistance program in the Lake Simcoe watershed has contributed to an estimated reduction of 18 tonnes of phosphorus over a 20-year period (i.e., less than one tonne/year); but the estimated current loading from agricultural lands is 17 tonnes per year. Agriculture contributes additional phosphorus through windborne transport of disturbed soils.

Since 1992, OMAFRA's key tool for rolling out sustainability skills to farmers has been the Environmental Farm Plan (EFP) – a voluntary education program reinforced by subsidies for eligible projects. But the ministry is only now beginning to examine the cumulative environmental effectiveness of this approach. Key questions need to be addressed, including the extent to which best management practices have been adopted, and their effectiveness in reducing loadings of nutrients to waterways.

The environmental effectiveness of the *Nutrient Management Act, 2002* (*NMA*) also remains an open question. MOE describes the *NMA* as one of the key laws protecting the Great Lakes, primarily through a framework for managing manure. Administered jointly by OMAFRA and MOE, the *NMA* sets rules for certain livestock operations, requiring plans for manures and similar materials. But only a fraction of Ontario's livestock operators are covered; OMAFRA estimates that only 27 per cent of the total manure volume is managed under these nutrient management rules. Although the nutrient management regulation, O. Reg. 267/03 made under the *NMA*, came into effect in 2003, OMAFRA is unable to provide the ECO with data or a summary of how manure-based nutrient loadings to waterways have changed overall as a consequence of the regulation.

Harness a Broader Range of Ministries to Deliver Great Lakes Restoration

Of the three provincial co-signatories to the COA (MOE, MNR and OMAFRA), MOE carries most of the responsibilities for Great Lakes outcomes. But many policy decisions critical to Great Lakes sustainability lie outside MOE's control. Most notably, the Ministry of Municipal Affairs and Housing (MMAH) oversees land use planning through the *Planning Act* and the periodic review of the PPS. Thus, the introduction of greener approaches to stormwater management planning or improved protection of Great Lakes coastal wetlands will depend on MMAH, a ministry with no explicit stake in the health of the Great Lakes ecosystem.

Similarly, the Ministry of Infrastructure (MOI) has recently released its long-term infrastructure plan, Building Together, which addresses water and wastewater infrastructure. Although MOE is able to contribute advice on sewage infrastructure needs, the weighing of overall priorities occurs at MOI, a ministry not tied by any formal obligations to Great Lakes goals. The accountability gaps created by the absence of MMAH and MOI at the COA table were noted in a 2005 review of the COA conducted by Canada and Ontario. This review recommended that "the Parties to COA should be expanded to include ministries or departments that are involved in managing environmental sustainability issues in the Great Lakes Basin."

Champion the Great Lakes

MOE has acknowledged that many Ontarians do not know much about the Great Lakes or their importance. Yet public outreach on the Great Lakes is very tentative; even interesting research findings and good news on site-specific progress do not seem to get prominent play. For example, MOE is not widely educating the public on the phenomenon of the "nearshore shunt" (see box on nearshore shunt), despite the ministry's own research contributions and its big implications for lake management. A designated "champion" for the Great Lakes at a senior level within MOE might improve both public outreach and knowledge brokering. In addition, such a facilitator might better integrate and leverage the Great Lakes work currently scattered among several divisions within MOE.

Conclusion

Just as cities, from time to time, have to "rediscover" their own waterfronts, so it seems that regions periodically must reconnect with their own defining ecological features. On the American side of the border, there has been a concerted decision to reconnect with – and invest in – the Great Lakes. Ontario should seize the opportunity to do the same and engage the many solutions that lie within its own powers.

The "Nearshore Shunt" and the Resurgence of Harmful *Cladophora* Blooms

Unsightly and foul-smelling shorelines, degraded drinking water quality, avian botulism and human pathogens have all been associated with the resurgence of *Cladophora* algae in several Great Lakes. Research in the 1960s and 1970s first linked *Cladophora* blooms with high phosphorus levels caused mainly by inadequate sewage treatment, agricultural runoff, lawn fertilizers and phosphorus-containing detergents. Although phosphorus restrictions mandated under the Great Lakes Water Quality Agreement successfully reduced phosphorus loads and abated *Cladophora* growth in the early 1980s, the problem has again reared its ugly head.

This time, the apparent explosion of *Cladophora* is believed to be a result of ecosystem alterations caused by invasive mussels (i.e., zebra and quagga mussels). The accidental introduction and subsequent widespread colonization of these mussels substantially increased nearshore water filtration and, therefore, light penetration, allowing *Cladophora* to expand their range in both depth and distribution. Invasive mussels may also boost *Cladophora* growth by providing substrate for attachment, reducing nutrient competition, and trapping and recycling phosphorus (and other nutrients) in the nearshore in a process termed the "nearshore shunt." As a result, previous progress in reducing *Cladophora* growth has largely been offset by mussel-induced increases in water clarity and impacts on phosphorus cycling. Moreover, by trapping phosphorus into nearshore zones, the mussels may be responsible for nearshore eutrophication (which results in the depletion of oxygen and wildlife) and a parallel nutrient depletion ("desertification") of deeper offshore waters.

Eliminating zebra and quagga mussels from the Great Lakes does not seem feasible. Scientists, therefore, still consider the reduction of phosphorus loadings to be the most effective way to reduce *Cladophora* growth. Successful management of *Cladophora* blooms will also require further improvements in our: understanding of the sources and retention of phosphorus; monitoring of invasive mussel and *Cladophora* populations; and understanding of *Cladophora* ecology. Moreover, there is a need to more fully understand the impacts of neighbouring land uses (e.g., agriculture and stormwater management) on nearshore conditions, and to integrate these considerations into the modelling and management of *Cladophora*. Finally, because the visibility of the *Cladophora* problem taints the public's perception of not only Great Lakes water quality, but also the effectiveness of government programs in improving and protecting the lakes, MOE must also effectively communicate to the public the extent and suspected causes of the problem, as well as ministry research and measures to address it.

For ministry comments, please see Appendix C.

2.2 *Far North Act, 2010*

Ontario's Far North is among the largest ecological systems on the planet and, for the most part, remains largely intact. At approximately 452,000 square kilometres (km^2), this region covers 42 per cent of the province and is larger than most countries. Covering the northern third of Ontario, it is roughly split between the boreal forest on the Canadian Shield to the south and the bogs and fens of the Hudson Bay Lowlands to the north. The Far North includes approximately 158,000 km^2 of boreal forest, providing habitat to more than 200 sensitive species, including the threatened population of woodland caribou *(Rangifer tarandus caribou).* This region is also a carbon sink of global significance, absorbing more than 12.5 million tonnes of carbon dioxide annually and storing almost 8,000 times that amount of carbon.

The Far North is home to 31 First Nations communities. Approximately 24,000 people live in these communities, which are typically accessible only by air or winter roads. Presently, large-scale development generally is limited to mineral exploration and development; the Musselwhite gold mine and the Victor diamond mine are both in active production, and intensive prospecting is underway in the area known as the "Ring of Fire." The Far North is not yet open to commercial timber harvesting, which occurs in the middle-third of the province in the Area of the Undertaking (AOU). Protected areas currently cover 8.6 per cent of the Far North; the majority of these lands are contained in a single site, Polar Bear Provincial Park, on the shores of Hudson and James Bays.

In July 2008, the Premier announced that the government would protect at least 225,000 km^2 of Ontario's Far North. The vision is to have First Nations and the Ontario government collaboratively map an interconnected network of conservation lands across the Far North that would be permanently protected. The protected lands would give priority to "key ecological features such as habitat for species at risk or important carbon sinks." The government would work with all northern communities and resource industries to create a broad plan for sustainable development. New commercial forestry opportunities would be made available through the planning process, and the opening of any new mines in the Far North would require community land use plans, jointly developed with First Nations. Never before has such comprehensive land use planning occurred in northern Ontario.

The Ontario government originally cast this initiative as a key part of its plan to fight climate change. The government's 2008-2009 Climate Change Action Plan Annual Report stated that this legislation will create a framework for "sustainable growth" that protects the province's natural resources, and recognizes the carbon storage and sequestration capacity of natural areas. Without question, climate change will have a profound effect on northern Ontario within our lifetimes. By the year 2050, annual and seasonal mean temperatures are expected to increase between 2°C and 7°C, depending on the season and location in northern Ontario. Climate change will affect everything from the numbers and types of species to the loss of permafrost, causing massive changes in surface hydrology and the release of significant amounts of methane, a powerful greenhouse gas.

In October 2010, the government passed the *Far North Act, 2010*. In the same year, the government expanded its approach, promoting the *Far North Act, 2010* as part of its five-year Open Ontario Plan to strengthen the economy. It stressed the legislation's importance for future mineral development, especially in the Ring of Fire. Between 2007 and 2010, the number of unpatented mining claims tripled to over 90,000 in the Far North.

The Vision for the Far North

The legislation's purpose is to provide for community based land use planning in the Far North that sets out a joint planning process between First Nations and the Ontario government. It confirms that this process will be consistent with the recognition and affirmation of existing Aboriginal and treaty rights in the *Constitution Act, 1982*, including the duty to consult. A broader purpose of the *Far North Act, 2010* is to support "the environmental, social and economic objectives for land use planning" for the peoples of Ontario.

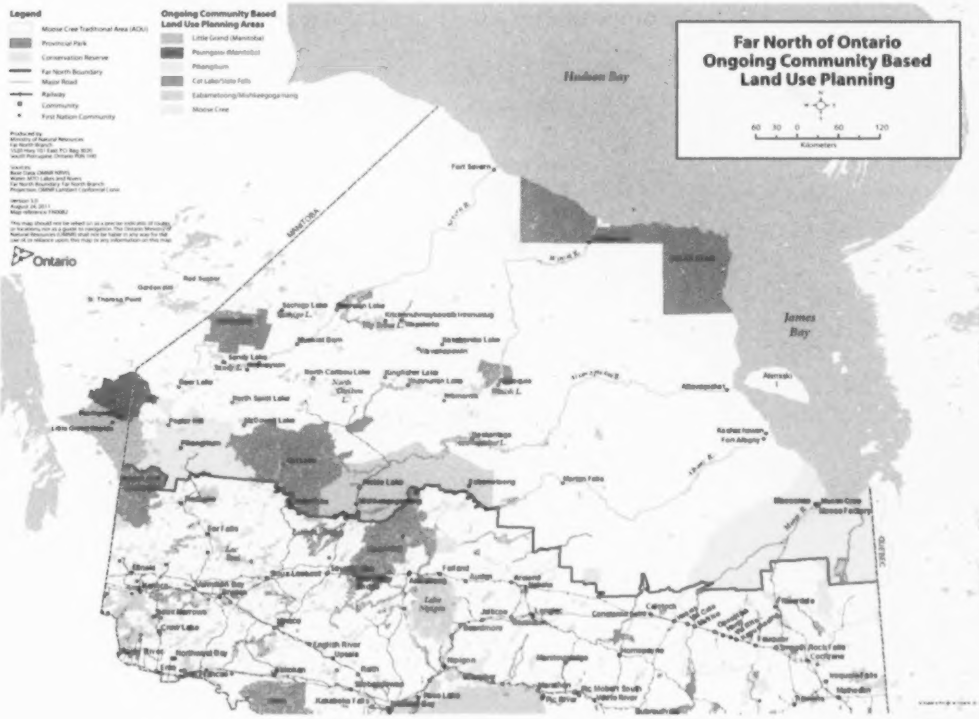

Far North of Ontario
Ongoing Community Based
Land Use Planning
Legend
Moose Cree Traditional Area (AOU)
Provincial Park
Conservation Reserve
Far North Boundary
Major Road
Railway
Community
First Nation Community
Ongoing Community Based Land Use Planning Areas
Little Grand (Manitoba)
Pikangikum
Cat Lake/Slate Falls
Eabametoong/Mishkeegogamang
Moose Cree
Ontario
Hudson Bay
James Bay
Fort Severn
Kilometers

Figure 2.2.1. Far North community based land use planning. Source: Ministry of Natural Resources.

Joint Planning Body

Any First Nation with a reserve in the Far North, or with which the Minister of Natural Resources has agreed to work, may indicate its interest in establishing a joint planning body. Once established by the Minister, the joint planning body's purpose is to "advise on the development, implementation and co-ordination of land use planning in the Far North" and other agreed-upon advisory functions. Additionally, it can advise the Minister on the allocation of funding to support First Nations in their planning work, as well as make recommendations related to dispute resolution. Membership of the joint planning body is to be divided equally between members of First Nations and the Ontario government.

Far North Land Use Strategy

The legislation requires that the Minister of Natural Resources develop a broad strategy to assist in the preparation of individual community based land use plans. The strategy must take into account the Act's objectives, as well as any advice provided by the joint planning body. It will also detail the requirements for amending community based land use plans and specify the allowable and restricted activities for each category of land use designation. As of July 2011, MNR had not yet publicly announced when it would begin to develop the strategy; some components of this unwritten strategy already are being notionally fleshed out and applied in the four community land use plans that have been shared with the public so far.

Community Based Land Use Plans

First Nations initiate the planning process under the *Far North Act, 2010* by expressing their interest to the Minister; ministry staff then work with the First Nations through a joint planning team to prepare terms of reference to designate the planning area and prepare the community based land use plan. Once the Minister and the council of each of the First Nations have approved the terms of reference, the Minister may make an order designating the planning area, and a community based land use plan may then be developed jointly.

In preparing the community based land use plan, First Nations and the Minister must take into account the Act's objectives and the Far North Land Use Strategy. Public notice and the opportunity to comment must be provided during the development of the draft plan.

Each land use plan will: map out a zoning system; list permitted and prohibited activities; designate one or more protected areas; specify how significant cultural and ecological features are addressed; and deal with any issues adjacent to the planning area that the team has identified. The parties also must specify when the community based land use plan is required to be reviewed. Community based land use plans must be approved by both the Minister and the council of the First Nations.

Unless previously authorized, specific types of development are prohibited in the Far North until a community based land use plan is approved. These prohibited activities include: opening a mine in prescribed circumstances; commercial timber harvesting; oil and gas exploration/production; constructing or expanding an electrical generation facility; constructing or expanding electrical transmission and distribution systems; and constructing or expanding all-weather transportation infrastructure. Subject to conditions, the Minister may issue orders that authorize some of these prohibited activities to proceed, such as electrical generation and transmission or all-weather transportation infrastructure. Moreover, Cabinet may issue an order authorizing any of these prohibited activities if it is in "the social and economic interests of Ontario."

The lack of a community based land use plan also does not restrict: feasibility studies or similar assessments, including wind testing; activities associated with environmental clean-up; or prospecting, mining claim staking, mineral exploration or obtaining a mining lease or licence of occupation for mining purposes in accordance with the *Mining Act*.

Authorization of Commercial Timber Harvesting

Once a community land use plan has been approved, MNR can request that the Ministry of the Environment (MOE) authorize the creation of a new declaration order under the *Environmental Assessment Act* (*EAA*), which is required to allow commercial timber harvesting in the plan area. Both MNR and MOE are separately required to consult the public using the Environmental Registry on the creation of a new declaration order under the *EAA*. Once a plan area is covered by an approved declaration order, forest management planning may proceed under the *Crown Forest Sustainability Act, 1994*.

Protected Areas

After a community based land use plan is approved, the First Nations' council may request that the Minister make a regulation that establishes the boundaries of protected areas that have been zoned in the plan. The *Far North Act, 2010* allows for "protected areas" to be regulated under this legislation; however, nothing in the Act prevents these lands from being regulated as provincial parks or conservation reserves under the *Provincial Parks and Conservation Reserves Act, 2006* (*PPCRA*), the legislation that MNR normally uses to protect lands across Ontario.

There are substantial legal differences between the level of protection and management afforded by the *PPCRA* and the *Far North Act, 2010*.

The *Far North Act, 2010* does establish clear prohibitions by law for protected areas, a superior approach to that taken in numerous other jurisdictions. The legislation states that the following types of development, land uses and activities are prohibited in protected areas:

- prospecting, mining claim staking and mineral exploration;
- opening a mine;
- commercial timber harvesting; and
- oil and gas exploration or production.

However, any of these prohibitions can be over-ridden by order of Cabinet, subject only to consideration of the legislation's objectives and if such an exception "is in the social and economic interests of Ontario."

Protected areas under the *Far North Act, 2010* essentially are intended to be non-operating areas from a management perspective. By contrast, the *PPCRA* requires the active involvement of MNR staff as each regulated area must have management direction, which involves, at least in principle, ecological monitoring and enforcement activities. From a practical perspective, protected areas under the *Far North Act, 2010* are essentially lines on a map without any clear obligations on anyone to act in a stewardship role.

Community Based Land Use Plans to Date

Four plans have been approved as of July 2011 under the legislation. The *Far North Act, 2010* grandfathered "Keeping the Land: A Land Use Strategy for the Whitefeather Forest and Adjacent Areas," developed jointly by Pikangikum First Nation and MNR and approved in June 2006. In July 2011, three more plans were finalized after undergoing public consultation: Cat Lake and Slate Falls First Nations, Little Grand Rapids First Nation, and Pauingassi First Nation. According to MNR, 25 communities have initiated some stage of planning activities.

The community based land use plans developed to date include three types of land use designations: general use area, enhanced management area and dedicated protected area. General use areas and enhanced management areas allow for all types of land use activities, but the latter may specify additional guidelines to restrict the timing or nature of some activities. Presumably, these land use designations will later be reflected in the broader guidance for all plans in the Far North Land Use Strategy.

Table 2.2.1
Land Use Designations in Community Based Land Use Plans Under the *Far North Act, 2010* as of July 2011.

	Plan Area	Dedicated Protected Area	Enhanced Management Area	General Use Area
A Land Use Strategy for the Whitefeather Forest and Adjacent Areas (June 2006)	1,221,719 ha	436,025 ha (35.7%)	426,553 ha (34.9%)	359,141 ha (29.4%)
Pauingassi Community Based Land Use Plan (July 2011)	138,763 ha	106,628 ha (76.8%)	32,135 ha (23.2%)	0
Little Grand Rapids Community Based Land Use Plan (July 2011)	188,738 ha	188,738 ha (100%)	0	0
Cat Lake-Slate Falls Community Based Land Use Plan (July 2011)	1,512,064 ha	506,282 ha (33.5%)	342,345 ha (22.6%)	663,437 ha (43.9%)
Total	**3,061,284 ha**	**1,237,673 ha (40.4%)**	**801,033 ha (26.2%)**	**1,022,578 ha (33.4%)**

The Cat Lake-Slate Falls Community Based Land Use Plan covers the largest plan area to date. This plan allows development in about two-thirds of its plan area, similar to the plan approved for the Whitefeather Forest, which is likewise directly adjacent to the AOU. Within this plan, the dedicated protected areas generally are located along major waterways and typically do not include areas with the potential for tourism or mineral development. While some parts of the (yet to be regulated) protected areas include significant ecological values, such as mature forest stands or caribou calving grounds, others do not.

Funding

In March 2008, the Ontario government transferred $1 million to Nishnawbe Aski Nation (NAN) for individual First Nations to build the capacity for land use planning; 38 First Nations communities and Tribal Councils received funding from NAN. At the same time, the Ontario government allocated $30 million over four years for its land use planning in the Far North. In March 2010, the Ontario government set up a $45-million fund over three years for skills training in northern Ontario, which included $2 million annually for training for First Nations communities involved in land use planning. In September 2010, a further $10 million over two years to directly support First Nations working on land use planning was allocated.

ECO Comment

Developing the *Far North Act, 2010* was controversial and difficult for all involved – First Nations, the Ontario government and the many stakeholders. It also was a genuine effort by all to better the communities, economy and environment of northern Ontario. The end result is positive: the *Far North Act, 2010* is a step toward acknowledging and addressing the shared responsibility of the Ontario government and First Nations for planning and safeguarding the land and its peoples. The ECO commends the Ontario government on its efforts to work with First Nations to plan the orderly development and protection of northern Ontario.

Some critics of the *Far North Act, 2010* interpreted it as stopping development in half of the Far North. In reality, the Act opens up half of northern Ontario to different development opportunities through an orderly process that satisfies the requirement to meaningfully involve First Nations. This approach makes practical business sense, on top of its prudent measures to safeguard one of the largest and most intact ecological systems on Earth.

MNR merits high praise for the law's objective to protect areas of cultural value and ecological systems in an interconnected network of protected areas that is at least 225,000 km^2. This ambitious target – to protect more than half of the Far North – far exceeds international protected area targets. If the Ontario government achieves its Far North target, which may take more than a decade, the coverage of "protected areas" across the *entire* province would rise from 9.4 per cent to 26.5 per cent. At least symbolically, this commitment makes the Ontario government worthy of global acclaim. It is critically important, though, that ecological representation of both features and functions be a cornerstone of this planning process.

As with most laws that lay out a planning framework, the devil is in the details – how it gets implemented. The relative success of the *Far North Act, 2010* will rely strongly on the financial capacity of MNR to adequately gather the necessary ecological information to input into the planning process, as well as to collaborate with First Nations in ongoing dialogue. The success of the planning process also hinges on how well the Ontario government supports building the capacity of First Nations to develop community based land use plans and, then, to jointly manage the lands going forward. Inadequate government funding, including the lack of the necessary policy development and support, could jeopardize the long-term success of the *Far North Act, 2010*. In the long term, it is unclear what role MNR will take with regard to ecological monitoring, management, enforcement and public reporting on the implementation of the *Far North Act, 2010*. This lack of clarity and certainty is worrisome given the ministry's current capacity challenges (see Part 5.1 of this Annual Report).

The *Far North Act, 2010* is commendable for its explicit objective of "the maintenance of biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon in the Far North." Beyond its immediate symbolic value, this objective can be used as a metric of success going forward. For example, with regard to biodiversity, MNR has already proposed allowing mining and timber harvesting in the "protected" habitat of threatened woodland caribou in the Far North by means of an exemption under the *Endangered Species Act, 2007*. While the *Far North Act, 2010* strives to achieve a balance between conservation and development, sometimes this type of trade-off will have significant, and possibly irreversible, ecological consequences.

The Ontario government strongly promoted that a key purpose of the *Far North Act, 2010* is to address the storage and sequestration of carbon in the Far North. However, it is unclear how this purpose will be achieved, and it is of concern that little mention of carbon storage, sequestration and management occurs in any of the plans to date. For example, the Cat Lake-Slate Falls Community Based Land Use Plan states that further discussion is needed to determine the plan's potential contribution to the mitigation of climate change; yet, it already lays out proposed areas for development and protection. Much like our earlier concerns regarding biodiversity, the Ontario government must treat the climate change commitments enshrined in the *Far North Act, 2010* as more than rhetoric if the law truly is to be judged as a precedent-setting model for the world in the years ahead.

For a more detailed review of this decision please refer to Section 4.11 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

2.2.1 Hydroelectric Development in the Far North

Although mineral exploration in the Ring of Fire has dominated the first wave of development pressure in Ontario's Far North, waterpower may soon be next.

Photo: Ontario Power Generation

Approximately 60 per cent (3,900 megawatts or MW) of the undeveloped hydroelectric potential in Ontario is located on the large, wild river systems of the Moose, Albany, Attawapiskat, Winisk and Severn rivers that flow north into Hudson Bay and James Bay. With the exception of the Moose River and its tributaries, the other large northern rivers currently exist in an almost unaltered state, with no hydroelectric stations. Undeveloped rivers of this size are rare in a global context, and are a key component of the Far North's ecological value. However, given the Ontario government's interest in encouraging all forms of green energy development, the potential of these rivers to host waterpower development will be examined closely by the energy industry.

Policy constraints, as well as remoteness, have prevented the development of northern waterpower resources to date. In response to First Nations' concerns about the flooding of large areas, the government made commitments in the 1990s restricting new waterpower development in the Far North. These commitments have been incorporated into the Ministry of Natural Resources' (MNR's) Waterpower Site Release Policy, which is currently under review.

However, in recent years, the government has moved aggressively to expand the role of renewable energy in meeting the province's electricity needs. In 2006, the government directed the Ontario Power Authority (OPA) to increase Ontario's renewable energy capacity (including hydropower) to 15,700 MW by 2025. The OPA's original plan proposed acquiring almost 1,800 MW from new hydro projects in the Far North, at locations where development is currently restricted due to the policy commitments noted above. The OPA's plan did note that "further public review and debate will be required respecting the release of such sites." While this plan was never approved, the OPA has subsequently introduced a Feed-in Tariff program that guarantees a 40-year above-market price for hydro projects smaller than 50 MW, providing another impetus for new hydro generation.

The *Far North Act, 2010* now adds another policy wrinkle. The Act sets the stage for land use planning that allows First Nations and the Ontario government jointly to make choices about whether these waterpower sites should be developed. The Act prevents new waterpower developments until a community based land use plan is in place. However, the Minister of Natural Resources may issue an order permitting development to proceed in advance of a community based land use plan in certain circumstances, if the councils of First Nations in the area are supportive.

Environmental Concerns

Development of major waterpower sites would likely require some flooding of the surrounding land, which raises several environmental concerns. Hydropower is often promoted as a carbon-free source of electricity. However, greenhouse gases (GHGs) are emitted from newly flooded land, as carbon previously stored in the soil is released to the atmosphere as carbon dioxide or methane (which is a much more potent GHG). This is of particular concern because much of the Far North is covered by peatlands that have among the highest soil carbon levels in the world. Hydroelectric dams would also affect fish in the Far North by altering spawning habitat, introducing barriers to migration, and contributing to higher levels of mercury pollution. These effects would be especially detrimental to the lake sturgeon (Southern Hudson Bay/James Bay population), which is listed as a species of special concern under Ontario's *Endangered Species Act, 2007*. Previous hydro development in northeastern Ontario has contributed to reducing the sturgeon's historical range.

In recognition of the environmental consequences of waterpower development, the Far North Science Advisory Panel recommended to the Minister of Natural Resources that, while smaller run-of-river projects designed to meet Far North community energy needs should be encouraged, the existing moratorium on large projects (which prohibits hydroelectric development projects larger than 25 MW in most of the Far North) should be maintained. The Minister has not formally responded to the panel's report.

Perhaps the government's new Long-Term Energy Plan (released in November 2010) signals a more cautious approach to waterpower development in the Far North. It notes that "large-scale [hydro] projects, usually in remote locations, are not economically feasible at this time due to high capital and construction costs. Transmission, engineering, and environmental factors are also challenges. However, due [to] the importance of hydroelectric generation, Ontario will continue to study Northern hydro options over the period of the Plan."

ECO Comment

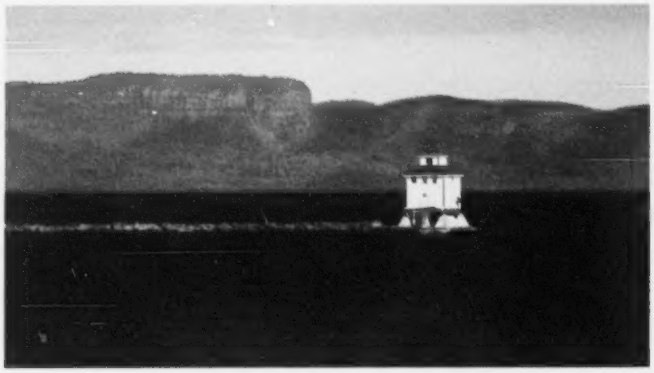
The ECO believes that hydro development in the Far North should be approached cautiously. The province's energy policy should not be allowed to compromise proper land use planning in the Far North. The ECO believes that it will be imperative for MNR to take a strategic perspective and consider how potential development could affect the province's ecological goals for the Far North region as a whole.

When assessing the environmental impacts of specific potential hydro projects, the ECO suggests that an important element of the analysis should be an estimate of the net life cycle GHG emissions, including emissions due to land flooding. Results likely will be quite site specific, depending on soil conditions, the amount of land flooded, and the amount of energy generated. This analysis will ensure that Ontarians do not end up paying a premium price for power from projects that do not support the objective of the *Far North Act, 2010* to preserve the carbon storage function of the Far North.

For ministry comments, please see Appendix C.

2.2.2 Growth Plan for Northern Ontario

In March 2011, the Ministry of Infrastructure (MOI) and the Ministry of Northern Development, Mines and Forestry (MNDMF) finalized the Growth Plan for Northern Ontario, 2011. The Growth Plan is a strategic plan that guides decision making and investment planning over the next 25 years. The plan is centred on six main themes: economy, people, communities, infrastructure, environment and Aboriginal peoples. According to the government, approximately 3,800 Ontarians participated in the development of the Growth Plan.



The Growth Plan applies to all of Ontario north of Parry Sound, which represents roughly 90 per cent of the total area of the province and is home to more than three-quarters of a million people. It covers 144 municipalities, 106 First Nations communities and more than 150 unincorporated communities. More than half of all residents in the plan area live in the five cities of Sudbury, Thunder Bay, Sault Ste. Marie, North Bay and Timmins; these municipalities are identified in the Growth Plan as strategic core areas for planning.

The Ontario government previously had developed a similar plan in southern Ontario: the Growth Plan for the Greater Golden Horseshoe, 2006. Both of these plans were developed under the *Places to Grow Act, 2005*. A significant difference between these two plans is that the northern Growth Plan does not set population targets. It also lets municipalities determine intensification targets for growth and exactly where growth should occur.

The Growth Plan for Northern Ontario sets out six principles: creating a highly productive region; developing a skilled workforce; partnering with Aboriginal peoples; creating an infrastructure network; being a leader in environmental management; and establishing innovative partnerships. The plan focuses on 11 "existing and emerging priority economic sectors," ranging from advanced manufacturing to tourism. The Ontario government will work with industry and northerners to develop regular five-year economic action plans to promote each of these economic sectors. Regional economic plans will also be developed involving municipalities, industry, community organizations and First Nations.

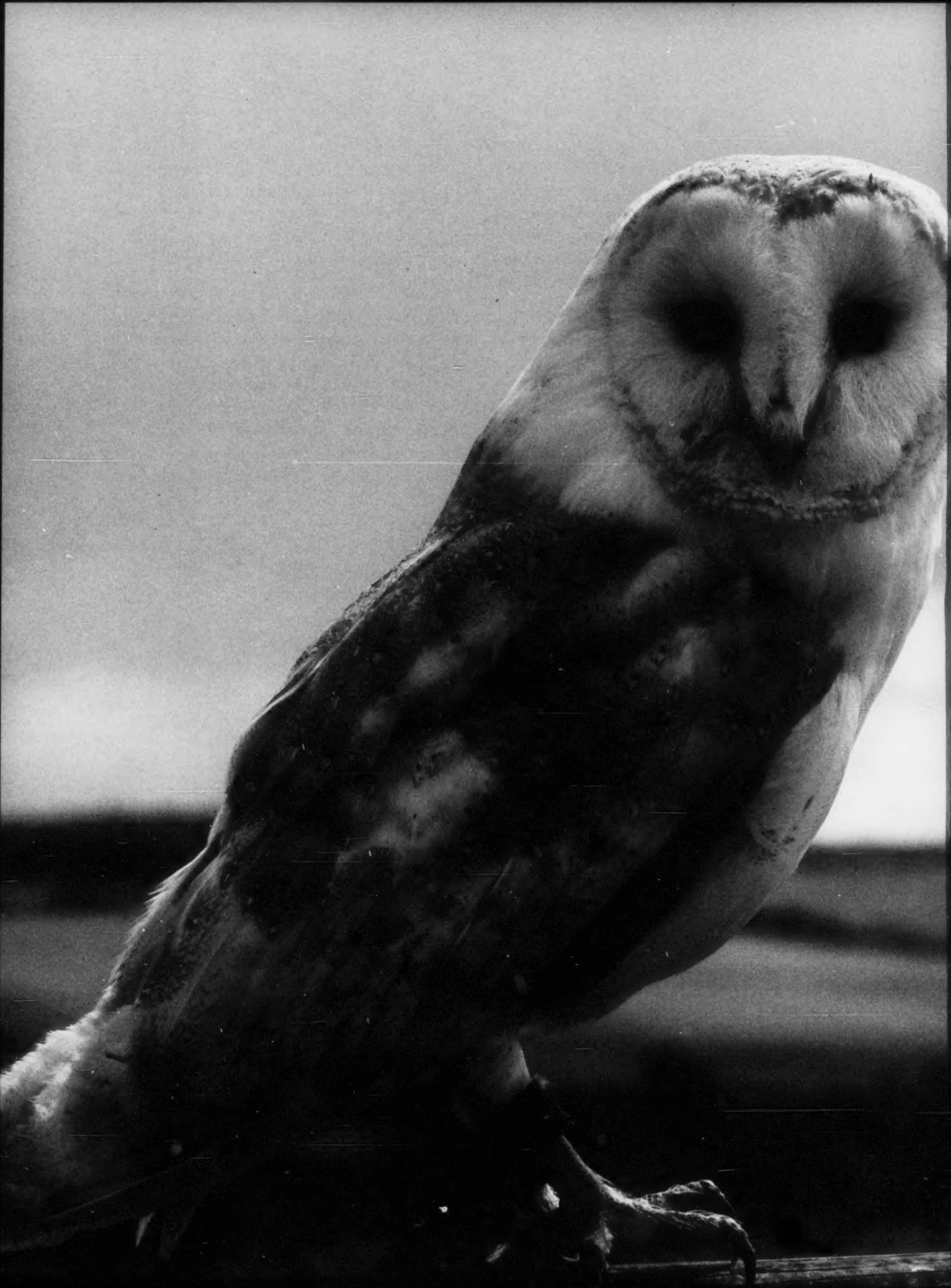
A multi-modal transportation system will be co-ordinated by the government to support the Growth Plan. The plan's intent is to integrate transportation infrastructure for air, rail, road and water in northern Ontario. This component of the plan also recognizes the need for better transportation linkages to rural and remote communities, including the commitment to realign winter road access to communities.

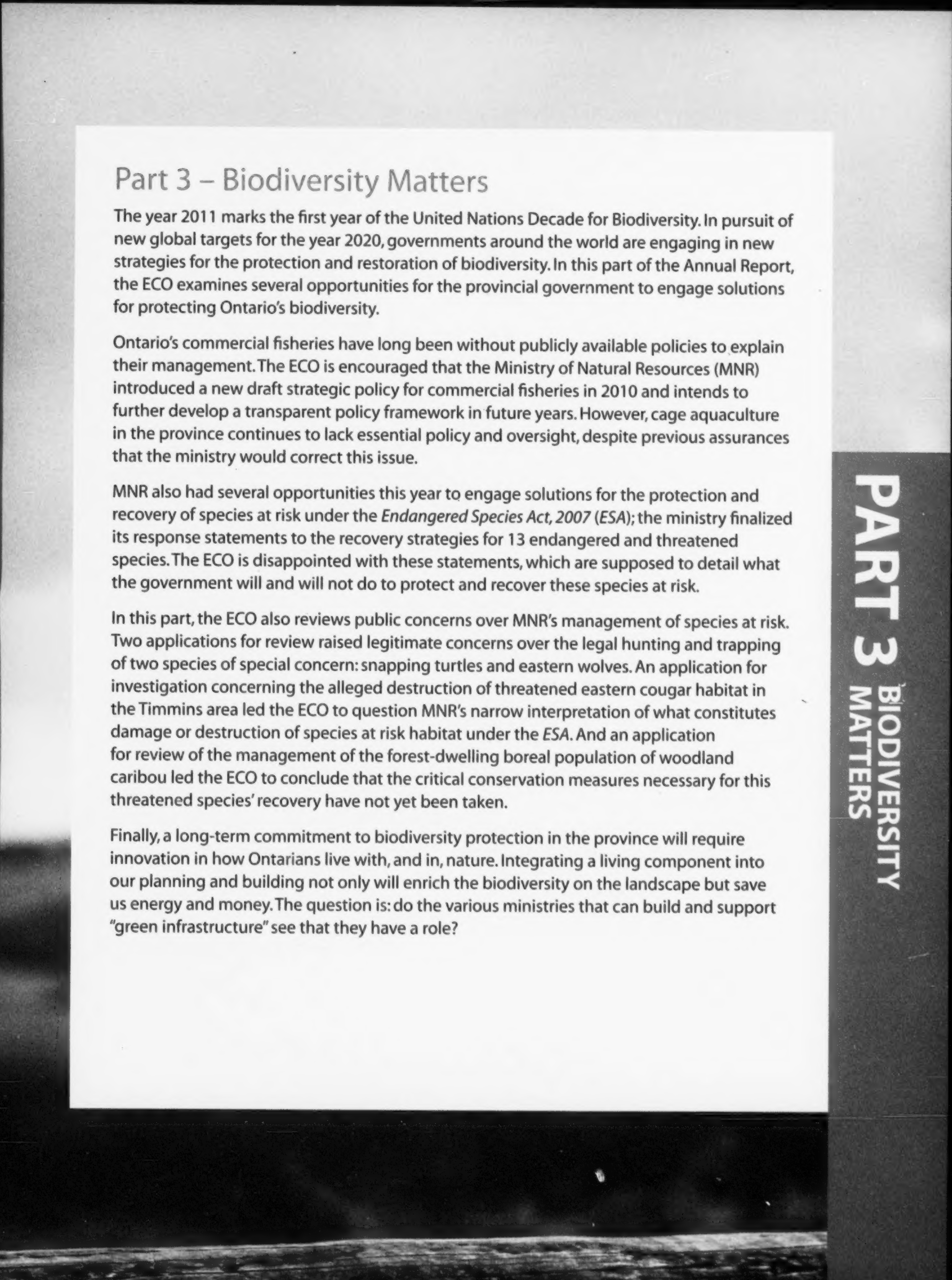
A Northern Policy Institute will be established to facilitate the Growth Plan. The proposed mandate of the institute is to provide independent research and develop policy options to support the plan, as well as to measure and report on its implementation.

The Growth Plan overlaps with areas identified for joint community based land use planning by First Nations and the Ministry of Natural Resources (MNR) in the Far North. In the case of a possible conflict between these two planning processes, the Far North Land Use Strategy and the mandatory contents of a community based land use plan prevail over the Growth Plan. However, the Growth Plan prevails over any potential conflict with the Provincial Policy Statement, 2005 issued under the *Planning Act*. The Growth Plan does not specify how any conflicts in direction would be resolved with respect to MNR's role and responsibilities in the planning of Crown lands, which cover the vast majority of the Growth Plan area.

The ECO believes that the Growth Plan for Northern Ontario should provide reassurance to northern communities that their concerns are being recognized by the Ontario government. The Growth Plan for Northern Ontario offers a platform to tailor solutions for these communities, recognizing that a one-size-fits-all approach (even within northern Ontario) may not always be the best approach for long-term economic sustainability. Some critics of the plan cast it as a motherhood document lacking detail. However, it is best understood as a framework to plan for the long term, enabling the development of shorter-term plans for communities, regions and economic sectors, and to address specific issues such as co-ordinated infrastructure planning. The relative success of the Growth Plan will rely on how northern communities embrace it and use it to their advantage.

For ministry comments, please see Appendix C.





Part 3 – Biodiversity Matters

The year 2011 marks the first year of the United Nations Decade for Biodiversity. In pursuit of new global targets for the year 2020, governments around the world are engaging in new strategies for the protection and restoration of biodiversity. In this part of the Annual Report, the ECO examines several opportunities for the provincial government to engage solutions for protecting Ontario's biodiversity.

Ontario's commercial fisheries have long been without publicly available policies to explain their management. The ECO is encouraged that the Ministry of Natural Resources (MNR) introduced a new draft strategic policy for commercial fisheries in 2010 and intends to further develop a transparent policy framework in future years. However, cage aquaculture in the province continues to lack essential policy and oversight, despite previous assurances that the ministry would correct this issue.

MNR also had several opportunities this year to engage solutions for the protection and recovery of species at risk under the *Endangered Species Act, 2007* (*ESA*); the ministry finalized its response statements to the recovery strategies for 13 endangered and threatened species. The ECO is disappointed with these statements, which are supposed to detail what the government will and will not do to protect and recover these species at risk.

In this part, the ECO also reviews public concerns over MNR's management of species at risk. Two applications for review raised legitimate concerns over the legal hunting and trapping of two species of special concern: snapping turtles and eastern wolves. An application for investigation concerning the alleged destruction of threatened eastern cougar habitat in the Timmins area led the ECO to question MNR's narrow interpretation of what constitutes damage or destruction of species at risk habitat under the *ESA*. And an application for review of the management of the forest-dwelling boreal population of woodland caribou led the ECO to conclude that the critical conservation measures necessary for this threatened species' recovery have not yet been taken.

Finally, a long-term commitment to biodiversity protection in the province will require innovation in how Ontarians live with, and in, nature. Integrating a living component into our planning and building not only will enrich the biodiversity on the landscape but save us energy and money. The question is: do the various ministries that can build and support "green infrastructure" see that they have a role?

3.1 Ontario's Commercial Fisheries Policies

Introduction

Commercial fishing has an important place in the history of settlement and development of the Great Lakes basin. Aboriginal peoples depended on Great Lakes fishes for subsistence, and as European settler communities were established, fishing became an important commercial activity and recreational pastime. However, as early as the late 1800s, some fish populations had begun to decline and disappear (Figure 3.1.1).

The reasons for the historical collapses of Great Lakes fishes mirror those that continue in the world's oceans today: synergistic impacts of overfishing; habitat loss and pollution from development; and importantly, the failure or absence of regulation. Further, peaking populations of aquatic invaders in the Great Lakes – such as the sea lamprey in the 1920s, alewife in the 1950s and round goby in the 1990s – have precipitated crises in native fish communities. The Great Lakes are now a highly altered ecosystem, with vastly different fish communities today than existed for centuries before European settlement. Many of the fish species that provided for the initial development of the commercial fishing industry no longer exist – such as the Lake Ontario Atlantic salmon (*Salmo salar*) and blue pickerel (*Sander vitreus glaucus*) – or can no longer support the large commercial fisheries of the past, due to concern over population status, such as lake sturgeon (*Acipenser fulvescens*), lake herring (*Coregonus artedi*) and lake trout (*Salvelinus namaycush*) (see Figure 3.1.1).

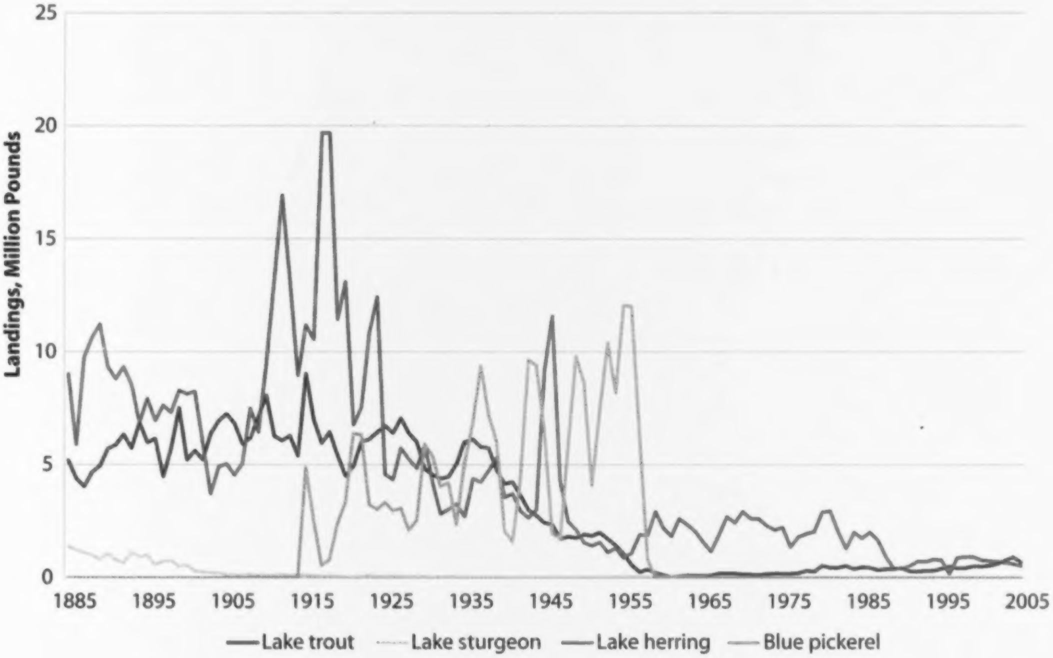


Figure 3.1.1. Decline and collapse of some historically commerically fished species in Ontario waters of the Great Lakes (Lakes Erie, Ontario, Huron and Superior). There are no data available for blue pickeral prior to 1915. Lake Ontario Atlantic salmon was the first commercial species to become extirpated in the Great Lakes (by 1900); however, the species is not included in this graph as no commercial catch data remain for this species. Source data: Great Lakes Fishery Commission.

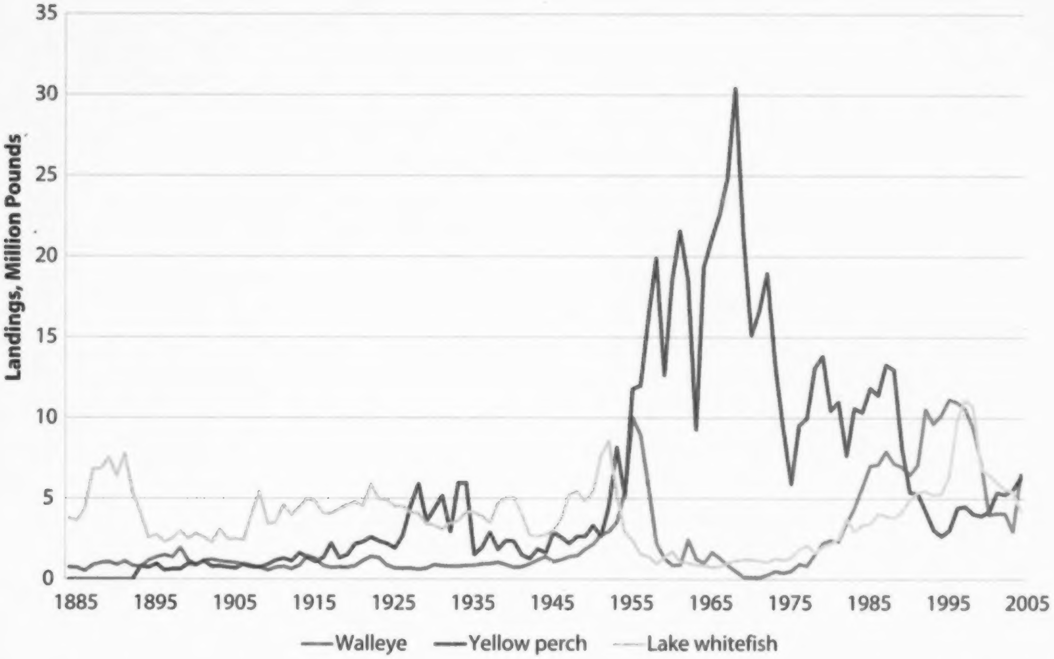


Figure 3.1.2. Ontario's commercial catch of quota-managed fish species. Fluctuations are not an exact reflection of biological trends, as fisheries-dependent data are also affected by economic/market forces, weather and other environmental factors. For example, walleye fisheries were closed in Lakes Erie and Ontario due to mercury contamination from 1970 to 1977. Further, additional landings may have gone unreported. Source data: Great Lakes Fishery Commission.

Commercial Fishing in Ontario

As some commercially fished species became depleted, the industry targeted other species (See Figures 3.1.1 and 3.1.2). Currently, commercial fishing operations continue on all Great Lakes and some inland lakes in the province. Freshwater commercial landings from Ontario comprise almost 40 per cent of Canada's national freshwater catch, and contribute approximately $200 million to Ontario's economy annually. This is relatively small compared to the province's recreational fisheries: anglers spent over $1.8 billion on direct recreational fishing expenditures in Ontario in 2005. This ECO review focuses on commercial fisheries policy; the ECO will examine Ontario's recreational fisheries in a future annual report.

Over 80 per cent of commercial fishing in Ontario occurs in Lake Erie, the warmest and most productive of the Great Lakes. The fishing industry predominantly uses gillnets to catch walleye (*Sander vitreus*), yellow perch (*Perca flavescens*) and lake whitefish (*Coregonus clupeaformis*) (see Figure 3.1.2). Most of the industry is in Canadian waters, as U.S. state governments have eliminated or tightly restricted most commercial fishing in favour of the recreational fisheries.

Commercial Fisheries Policy in Ontario

Photo: MNR

Policy for commercial fishing in the Great Lakes has always been complex due to the number of interests and jurisdictions involved. Since the late 19th century, the Ontario government has maintained primary responsibility for the management and licensing of the province's commercial fisheries. The Ministry of Natural Resources (MNR) currently manages Ontario's commercial fisheries under the *Fish and Wildlife Conservation Act, 1997* (*FWCA*), in collaboration with a number of different agencies, including the federal government, the bi-national Great Lakes Fisheries Commission, the Ontario Commercial Fisheries Association (OCFA), the Anishinabek/Ontario Fisheries Resource Centre and Aboriginal fishers. The Great Lakes Fisheries Commission co-ordinates fisheries research and management direction among the eight Great Lakes states, the two federal governments and Ontario, focusing on fish stocks of common concern.

For the past several decades, there has been very little information available to the public regarding the province's policies for commercial fisheries. In 2010, MNR posted a draft proposal for a new Strategic Policy for Ontario's Commercial Fisheries on the Environmental Registry. The ministry is planning to release subsequent policies dealing with specific management issues over the next several years. This year, the ECO undertook a preliminary examination of MNR's current management system for Great Lakes commercial fisheries.

Allocation: How Much to Fish, and How Much to Protect?

There are numerous considerations the province takes into account when allocating fish quotas, including ecological sustainability, subsistence or ceremonial fishers, commercial fishers (both Aboriginal and non-Aboriginal), and recreational fishers. Further, MNR must account for uncertainty as fish populations fluctuate with environmental and ecological changes.

Determining the allocation of some fish species to the commercial fishery is a multi-stage process, conducted on an annual basis. For example, for Lake Erie, a lake committee under the Great Lakes Fishery Commission first determines the total allowable catch for species of "common interest" within the lake (i.e., walleye and yellow perch), based on previous years' stock assessments. Second, the province allocates specific amounts of fish for conservation, subsistence and ceremonial use. MNR then divides the remaining amounts between Ontario's recreational and commercial fisheries. Finally, each commercial licence holder gets a predetermined percentage share of a lake's allotted commercial catch (called an individual transferable quota). However, many Great Lakes fishes are considered "unlimited quota" species and do not have an allocated commercial catch limit – for example, white bass (*Morone chrysops*) and longnose gar (*Lepisosteus osseus*). MNR does not monitor these species as closely as quota-managed species.

MNR does not have a publicly available policy to transparently explain how it allocates fish between user groups, such as recreational and commercial fisheries. In some cases, these fisheries target different species; in other cases, commercial fishers are prohibited from targeting certain species (e.g., Pacific salmonids). However, for other species like walleye that are pursued by both groups, MNR should provide an explicit statement of how allocation is calculated. Further, there is no indication from the ministry as to what conditions might trigger an allocated catch limit for a species that currently has an unlimited quota. For example, since white bass has increased in market value, some commercial fishers have targeted the species more frequently – but no catch limits for this species have yet been set.

Monitoring and Stock Assessment

Fisheries managers use stock assessments to determine the current and probable future abundance of commercial fish stocks. In the Great Lakes, there are a number of organizations that assess the status of fish species and communities, using a variety of methods. These assessments can be based on information from commercial fishers or landings (fisheries-dependent assessments) or on data collected from scientific surveys and studies in specific areas or across an entire lake (fisheries-independent assessments). Assessments based on the size of commercial catch can be skewed, as commercial catch varies with factors beyond ecology (e.g., market forces and economic value of particular fishes). Thus, scientific surveys and fisheries-independent data provide a less biased indication of stock status.

MNR monitors the commercial harvest through daily catch reports as a condition of each fishing licence, a process developed jointly by MNR and the OCFA. Daily catch reports are used for: assessing fish population size and structure; tracking harvests and checking against assigned licence quotas; ensuring harvests are legal and comply with licence conditions; assisting in calculating commercial fish royalties; and setting future quotas. Fishers provide data on landing, effort and harvest information in the reports.

Sampling of commercially harvested species is used to break down total harvest into size and age, which can be used to model an estimated population size and mortality. For example, in Wheatley Harbour in Lake Erie, MNR collects random samples of fishes caught by commercial fishers. In Lake Ontario, an OCFA observer annually conducts sampling of lake whitefish and northern pike (*Esox lucius*).

While all of MNR's Great Lakes Management Units (Ontario, Erie and the Upper Great Lakes – Huron and Superior) collect data on local fish populations, fish habitat and associated stresses, the quantity and quality of stock assessments vary among units. In Lake Erie, MNR and the OCFA have been conducting a fishery-independent survey program called the Lake Erie Partnership Index Fishing Survey since 1989. In the survey, commercial fishing crews and boats deploy experimental gillnets at sites across the Canadian side of Lake Erie annually from August to November. By contrast, the Lake Ontario Management unit has been determining the abundance of fishes, including lake whitefish, yellow perch and walleye, from fish community index gillnetting and trawling only in the eastern Canadian portion of the lake and the Bay of Quinte. MNR and the Great Lakes Management Units also work in partnership with other organizations, such as Fisheries and Oceans Canada and state authorities, to conduct stock assessments.

First Nations communities also conduct stock assessments using protocols developed by MNR (e.g., spring littoral index netting, fall walleye index netting, early summer trapnetting and nearshore community index netting) and, wherever possible, incorporate traditional knowledge into the project design. For example, in 2008, the Anishinabek/Ontario Fisheries Resource Centre completed 21 field projects (e.g., workshops, habitat inventories, index assessments and spawning assessments), which involved 17 First Nations communities. When requested by MNR, the First Nations communities share their data.

Licensing and Enforcement

Commercial fishing licences include detailed conditions describing allowable fishers, quota zones, fishing gear, times of year, target species and quota allocation. Approximately 600 commercial fishing licences are renewed in the province annually, 513 of which are on the Great Lakes. Licence conditions change every year and are individualized for specific fishers. The industry has been closed to new entrants since 1983, with no new commercial fishing licences or quota holders. Commercial fishing licences are not classified as instruments under the *Environmental Bill of Rights, 1993* (*EBR*); therefore, the public does not have the right to comment on licences or conditions when they are renewed.

The number of inspections and audits of commercial fishers by MNR varies by lake. The ministry places a high priority on enforcement in Lake Erie, where the bulk of the commercial catch occurs. MNR notes that Lake Erie is also the easiest of the Great Lakes to enforce, since fish processing plants are concentrated in specific ports (e.g., Kingsville, Port Dover and Wheatley). Port Officers on Lake Erie inspect fishers for compliance at all ports of landing, Weight Observers are also stationed at major processing plants to record actual weights of fish harvested. The ministry estimates that 45 per cent of all landings on Lake Erie are inspected or weight observed, and MNR is confident that the actual catch is within 5 to 7 per cent of the reported catch.

On the other Great Lakes, MNR notes that enforcement is not nearly as rigorous as seen on Lake Erie since fishing is more widely spread across a larger geographic area. On Lake Huron, the second major fish producing lake in Ontario, MNR uses a combination of officer inspections and on-board catch sampling to monitor fish catch. The Lake Ontario unit currently places priority enforcement effort on the marketing of invasive species in the Greater Toronto Area (i.e., enforcing the ban on live Asian carp in grocery stores; for more information on Asian carp please see Part 2.1of this Annual Report).

Some common licence violations include: fishing more than allocated quota; failure to declare landed fish; and inaccurate information on a daily catch report. Licence conditions appear to target issues of concern, and MNR lake managers can provide additional restrictions when needed. However, enforcement may not be targeting some problematic activities of concern to commercial fishers, such as high-grading (see below); curbing these practices may need additional on-board enforcement.

Bycatch and Species at Risk

MNR defines bycatch as the unintentional capture of fish or non-fish species while fishing for a targeted species. High-grading is the discard of low-quality or juvenile fish of a quota species by fishers (i.e., attempting to maximize the profit for catch within a restricted quota). MNR states that fishers are required to declare all fishes caught on their daily catch report, including bycatch or incidental harvest.

A particular issue of concern is the bycatch of species at risk. Currently, commercial fishers are exempted, under O. Reg. 242/08, from the *Endangered Species Act, 2007* provision prohibiting the harm of species at risk. MNR has not undertaken dedicated research on the bycatch of species at risk in Ontario's commercial fishery or bycatch mortality of these species. There are 27 fish species at risk in Ontario, eight of which have been observed in Lake Erie in the last four years. Threatened lake sturgeon can be caught by Lake Erie commercial gillnets, but are usually live-released when caught. However, a recent study funded in part by the OCFA showed that there was a high incidence of juvenile lake sturgeon mortality when caught in deep waters by bottom-set gillnets in the western basin of Lake Erie. This led the authors of that study to note that continued gillnet fishing could "reduce recruitment in subsequent years and impede population recovery over the long term."

MNR could impose additional measures to prevent and reduce bycatch, including additional seasonal, gear (e.g., for trawls) and depth restrictions, and sanctuary areas during spawning or nursery times. MNR is currently preparing a bycatch policy for Ontario's commercial fisheries that it will post on the Environmental Registry.

ECO Comment

The same stresses that caused historical collapses of Great Lakes commercial fisheries still exist and will continue into the future. The ECO believes that the lack of articulated policy has hindered the public's understanding of the ecological sustainability of Great Lakes commercial fisheries. There have been no formalized policies to explain to fishers, the public or other government agencies how MNR manages commercial fisheries in Ontario. This same problem extends to other areas of fisheries management, such as aquaculture. Given the historical mismanagement of Great Lakes fisheries, the ECO is troubled by the absence of transparent policy.

Stock assessment and harvest monitoring are vital components in commercial fisheries management. In the Great Lakes, the diversity of species and fishing pressures varies greatly between lakes (and even within lakes). While stock assessments should be tailored to the conditions of a lake, there is a disparity among MNR's Great Lakes Management Units in the quality and quantity of data collected. In addition to current studies, the ECO encourages MNR to undertake further fisheries-independent, lakewide stock assessments and monitoring. MNR partnerships with other agencies, such as the OCFA and the Anishinabek/Ontario Fisheries Resource Centre, are useful to supplement MNR's efforts. However, MNR should not rely solely on data collected by partners, but also ensure that it conducts independent stock assessments and harvest monitoring to better inform commercial fisheries management in Ontario.

The ECO is encouraged that MNR is moving forward with a policy framework for the province's commercial fisheries, including a bycatch policy. However, the ECO questions why MNR does not have an immediate plan to develop an updated allocation policy for Ontario's fisheries. As allocation affects all other management decisions for the province's fisheries, it is critical that MNR complete this policy first and foremost. The ECO urges the ministry to develop an allocation strategy, in partnership with commercial fishers and other stakeholders, that is scientifically defensible and based on fisheries-independent stock assessment. Further, the ECO hopes that any policies targeting bycatch or high-grading will be coupled with appropriate enforcement capacity. The ECO looks forward to clarity for government, fishers and the public, and expects transparency and public participation in the development of new policies for Ontario's commercial fisheries.

Recommendation 1:

The ECO recommends that MNR develop commercial fisheries policies, including an allocation policy, to increase transparency on how it manages Ontario's commercial fisheries.

For ministry comments, please see Appendix C.

3.1.1 Missing in Action: Ontario's Oversight of Cage Aquaculture

The ECO has had longstanding concerns over the province's oversight of cage aquaculture operations – the farming of fish in floating net cages in open water. Ontario is the only jurisdiction to permit cage aquaculture in the Great Lakes. There are nine cage aquaculture operations located on Crown land lake beds in Lake Huron and Georgian Bay.

Numerous ecological concerns are associated with cage aquaculture, such as: escaped fish inter-breeding with native species; escaped fish competing with native species for food and habitat; and the spread of fish disease in the native population. Rainbow trout (*Oncorhynchus mykiss*), a non-native species, is the only species raised at these locations.

Further, open cage aquaculture can have other potential environmental effects: the deterioration of local water quality from aquaculture waste products; the degradation of fish habitat; and decreased sediment quality and impaired habitat for bottom-dwelling organisms. The area allocated for these operations ranges from 1.5 hectares to 13 hectares. On average, cage operations for rainbow trout use approximately 500 to 655 tonnes of low-phosphorus feed annually; however, one site in Ontario has a feed quota of 1,800 tonnes.

Ontarians have waited more than 10 years for the much delayed release of the Ministry of Natural Resources' (MNR's) Aquaculture on Crown Land Policy. The lack of a policy, which was first proposed in 2000, creates uncertainty for the public and industry. It also results in a lack of environmental accountability for matters such as threats to native fish species, water quality and remediation.

The delayed policy prompted the ECO to request an update from MNR and the Ministry of the Environment (MOE) on the management of cage aquaculture and the status of many issues the ECO has flagged in past reports. The ECO is displeased to learn that little progress has been made on these issues.

Aquaculture Policies

The ECO is disappointed that MNR had not finalized its Aquaculture on Crown Land Policy or its Coordinated Application, Review and Decision Guidelines for Cage Aquaculture Sites in Ontario. MNR stated the delay was a result of the multi-agency consultations and the re-direction of staff resources to renewing licences that expired in 2010. It further stated that once the guidelines are finalized in 2012, completing the policy will be an "immediate priority."

MOE informed the ECO that the MNR-led consultations were expected to be completed in 2011. This process will inform MOE's finalization of discussion papers related to sediment and water quality, which will then inform MNR's licensing guidelines. These consultations were focused on developing environmental standards and a monitoring and reporting protocol to ensure the environmental sustainability of aquaculture operations.

The ECO finds it unacceptable that MNR moved its resources away from policy development in order to renew cage aquaculture licences, resulting in Ontarians having to wait several more years for the policy to be released and implemented. The ECO urges both ministries to complete the policy, guidelines and discussion papers promptly, and ensure they are science-based and promote sustainable practices, including closed-tank systems.

Inspection and Enforcement

In the past, the ECO has criticized MOE for allowing the clean waters of Georgian Bay and Lake Huron to be degraded by aquaculture operations. Essentially, operators can pollute waters until the vicinity reaches the interim Provincial Water Quality Objective of 10 micrograms/litre (μg/l) of phosphorus, from baseline levels of 3-5 μg/l. MOE's response to the ECO indicates that it continues to rely on this standard, which allows the continued degradation of clean waters.

Moreover, the ECO is disappointed with low inspection rates and limited action where water quality problems were detected. Licence holders are required to conduct water and sediment quality monitoring, and take water and sediment related management actions when necessary. This information is reported to MNR, which is responsible for the enforcement of licence conditions, and interpreted by MOE. MNR stated that inspections do not occur on a regularly scheduled basis – on average it inspects one or two sites per year. No violations, other than administrative errors, were recorded by the ministry.

MOE has the authority to inspect and issue corrective or preventive orders where a contaminant is discharged into the natural environment. MOE states it conducts site-specific monitoring where needed and conducted site-specific water and sediment quality studies. However, in practice, MOE largely relies on the self-monitoring reports of licence holders. MOE stated that aside from a few site-specific exceptions, water quality around cage aquaculture operations has met its standards. Where it did not, monitoring showed incidences such as elevated phosphorus concentrations, decreased dissolved oxygen levels, nuisance algal growths and instances of localized sediment impacts. No enforcement or abatement actions have occurred over the last five years. Instead, MOE stated it would continue to focus on identifying and addressing the causative factors of these infractions.

The ECO is troubled that MOE relies on voluntary compliance where environmental impacts were observed, despite its ability to issue orders. This inaction, coupled with low inspection rates, does not give the ECO confidence that provincial waters are adequately protected from the environmental impacts of cage aquaculture.

Public Consultation on Aquaculture Licences

In previous annual reports, the ECO expressed disappointment with MNR for posting proposed cage aquaculture licences on the Environmental Registry as information notices instead of instrument proposals with public comment periods. MNR reiterated its position that cage aquaculture operations, including licences, are captured by its Class Environmental Assessment (Class EA) for Resource Stewardship and Facility Development Projects and, therefore, not subject to Registry posting requirements. Furthermore, MNR consistently assigns cage aquaculture to the lowest category of its Class EA, which does not require public consultation, environmental study reports or project evaluation. The ECO believes that MNR is thwarting the purpose of the *Environmental Bill of Rights, 1993* and denying the public its right to comment.

For ministry comments, please see Appendix C.

3.2 Recovery of Species at Risk: Government Responses Inadequate

The Ministry of Natural Resources (MNR) is required to publish a document summarizing and prioritizing the recovery actions the Ontario government will take for each endangered or threatened species listed under the *Endangered Species Act, 2007* (*ESA*). These "government response statements" comprise the government's response to science-based advice provided by independent species experts (see Figure 3.2.1).

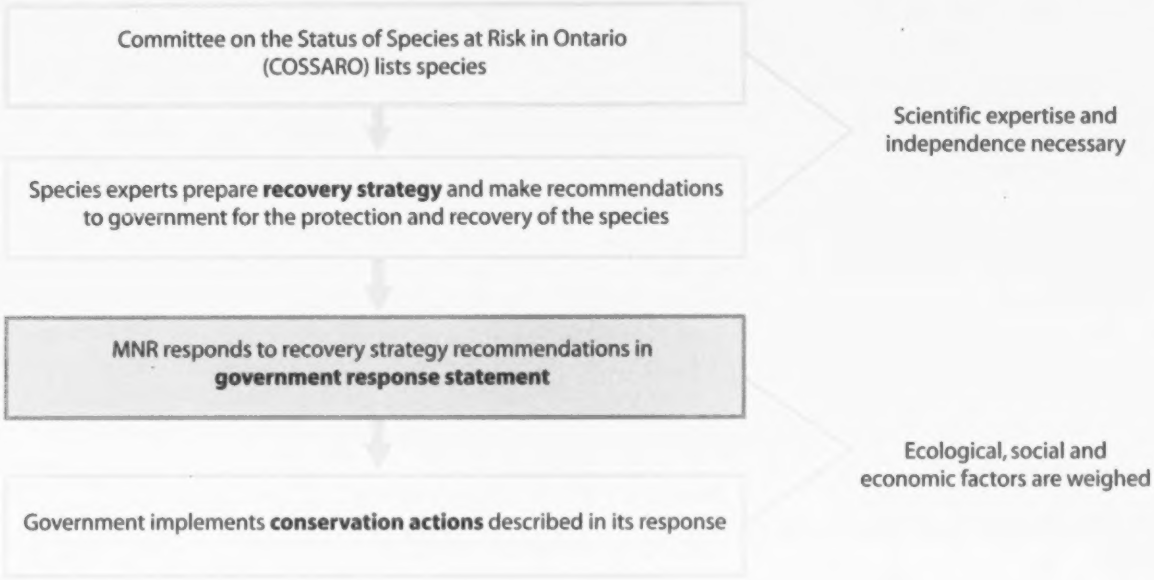

Committee on the Status of Species at Risk in Ontario (COSSARO) lists species
Species experts prepare **recovery strategy** and make recommendations to government for the protection and recovery of the species
MNR responds to recovery strategy recommendations in **government response statement**
Government implements **conservation actions** described in its response
Scientific expertise and independence necessary
Ecological, social and economic factors are weighed

Figure 3.2.1. Government response statements in the framework for protection and recovery under the *Endangered Species Act, 2007*.

In November 2010, MNR published government response statements for 13 endangered or threatened species:

- American badger (*Taxidea taxus*) – endangered
- barn owl (*Tyto alba*) – endangered
- deerberry (*Vaccinium stamineum*) – threatened
- eastern flowering dogwood (*Cornus florida*) – endangered
- eastern prairie fringed-orchid (*Platanthera leucophaea*) – endangered
- Engelmann's quillwort (*Isoetes engelmannii*) – endangered
- few-flowered club-rush (*Trichophorum planifolium*) – endangered
- Jefferson salamander (*Ambystoma jeffersonianum*) – threatened
- Ogden's pondweed (*Potamogeton ogdenii*) – endangered
- peregrine falcon (*Falco peregrinus*) – threatened
- redside dace (*Clinostomus elongatus*) – endangered
- spotted wintergreen (*Chimaphila maculate*) – endangered
- wood turtle (*Glyptemys insculpta*) – endangered

Government Response Statements

Under the *ESA*, government response statements must be considered prior to entering into agreements, issuing permits or instruments under the Act. As the 13 response statements are among the first prepared, they set the stage and serve as the template for those that will follow in the future. (The first government response statement, the Caribou Conservation Plan, was released in 2009. For additional information, see the ECO's 2009/2010 Annual Report.) At least 118 additional government response statements for endangered or threatened species are required to be prepared by March 30, 2014.

MNR used a standard format for the 13 government response statements, which included: an overview of government response statements in the context of the *ESA;* the government's recovery goal for that species; a list of government-led actions; a prioritized list of government-supported actions; and notes on implementation of actions for each species.

Government-Led Commitments

In each of the 13 government response statements, the government made six specific commitments:

- Collaborate with and educate agencies and planning authorities on the requirement to consider the species and its habitat in planning activities and environmental assessments;
- Encourage the submission of species data to MNR's Natural Heritage Information Centre (NHIC);
- Undertake communications and outreach to increase public awareness of species at risk;
- Protect the species through the *ESA* and [develop and] enforce the regulation protecting the species' habitat;
- Support partners in activities to protect and recover the species; and
- Establish and communicate annual priority actions for government support.

In 4 of the 13 statements, the government has made additional commitments. For the wood turtle, peregrine falcon, redside dace and Jefferson salamander, the government also commited to ensuring that "appropriate timing windows for undertaking activities in and around [species'] habitat are considered in the application of the *ESA*." For peregrine falcon and redside dace, the government made further commitments, including to "continue to participate in province-wide population surveys every five years" as part of a national peregrine falcon survey and to develop urban development guidelines for development within redside dace habitat.

Government-Supported Commitments

The government response statements state that species recovery is a shared responsibility and that "no single agency or organization has the knowledge, authority, or financial resources to protect and recover all of Ontario's species at risk." To this end, each of the government response statements contain a list of actions (recommended by recovery strategy authors) that the government "endorses" as being necessary for the protection and recovery of each species, but will not directly undertake.

Some listed actions are noted as being "high" priority. The government states these "will be given priority consideration for funding or for authorizations under the *ESA*," and that government support will be focused on these actions over the next five years. However, the government's specific rationale for listing particular actions as "high" priority was not included in the response statements.

Implications of the Decision

For most of the 13 species, the government has made only broad commitments for recovering species at risk that would be expected responsibilities under the *ESA*. For example, the commitment to "protect the species through the *ESA* and enforce the regulation protecting the species' habitat" appears to be a re-statement of legal obligations MNR already has under the *ESA*.

It is not clear how ministries outside of MNR might be given defined responsibilities for species recovery under any of the government's commitments, or what their involvement (if any) might have been in developing the government response statements.

Dependence on Third Parties for Recovery Activities

The government has listed specific recovery activities recommended by recovery teams that it will support or "endorse," but not lead or develop. It appears that these actions are expected to be undertaken by individuals or groups outside of government. However, it is unclear what the government will do if third parties are not available to undertake high priority (or any) activities. For example, if no third party is available to "conduct research to identify threats, evaluate their impacts and develop potential approaches to mitigate them" for spotted wintergreen, it is not clear whether the government would step in to fill this research gap.

Further, the majority of the listed recovery activities are not considered "high" priority and, therefore, it is unclear whether these activities will be eligible for government support over the next five years. Some of these lower priority activities comprise basic monitoring activities and would be required to fulfil the government's recovery goals. For example, a monitoring program to observe population trends, threats and habitat condition for Ogden's pondweed is not considered high priority, but would likely be required to reach the government's goal to "ensure the persistence of populations where they exist in Ontario" and, ultimately, be necessary to down-list or de-list the species.

Reliance on NHIC as Central Data Repository

Each of the response statements indicates that submission of species data to MNR's Natural Heritage Information Centre (NHIC) will be encouraged. However, the NHIC currently has a backlog for data entry, and information submitted may not be incorporated quickly enough to facilitate collaborative species at risk research. The NHIC will require additional capacity if it is to effectively take on this crucial role. Further, the push to require groups to report to NHIC may indicate a movement away from government-led monitoring, to dependence on third parties for gathering information on species' status.

Annual Prioritization of Actions

The response statements indicate that the government will establish priority actions for support on an annual basis. However, it is not clear what methods the government will use to prioritize actions or communicate these priority actions to the public. The lack of clarity raises some concern that the government may unilaterally change relative priorities for actions, support additional recovery actions, or remove particular recovery actions from access to government support.

Five-Year Reviews

Reviews are required to be conducted five years after a government response statement is issued. These reviews will examine the progress achieved toward the protection and recovery of the species and could act as an important accountability mechanism under the *ESA*. However, these reviews will not be able to gauge progress effectively, as the ministry has not set measurable targets or timelines for recovery activities within the government response statements. Lack of progress towards recovery may not be apparent; as no targets or benchmarks for either stewardship actions or environmental outcomes have been provided, it is unclear how the five-year reviews will measure success or failure of the recovery activities undertaken. Further, with the large number of government response statements MNR is required to prepare over the next three years, it is questionable whether the ministry will have the capacity or the funding to carry out these five-year reviews.

ECO Comment

The stated purpose of the *ESA* is to both protect species at risk and promote the recovery of species at risk in Ontario. It would appear that the government is not taking direct responsibility for the second component – species recovery – which ideally leads to species being de-listed from the *ESA*. In 2009, the ECO urged MNR to ensure that its response statements to recovery strategies are "robust, effective, and defensible and that its commitments are fully implemented in a timely fashion." Instead, the commitments the government has made for species recovery are weak, vague and arguably redundant, reiterating the responsibilities the government already has under the *ESA*. In effect, there has been no real government "response" to recovery strategies for these 13 species; key elements that would provide accountability, transparency and a long-term commitment are conspicuously absent. The ECO is gravely concerned about the implications of these insufficient government response statements for the future recovery of Ontario's species at risk.

As written, the statements do not create clarity for those who need it. The ECO believes that government response statements should clearly articulate the actions that will and will not be taken to recover species at risk, to alleviate the uncertainties that have been created for all stakeholders. The government responses require difficult, but legitimate, decisions to take or not to take particular actions recommended by recovery teams. The government should have no shame in stating what it cannot do – this should be clearly stated, with a rationale. The ECO believes an open and honest statement of the government's intent would provide the opportunity for outside groups to identify gaps and take on urgent, but unfunded, recovery activities. However, in the current response statements it is difficult for stakeholders to decipher what or how specific recovery activities will be undertaken.

MNR has created a scenario in which the on-the-ground recovery of species at risk in Ontario has been off-loaded to external, voluntary programs. If no external group is able to do the needed recovery work, there is no assurance that the government will take the lead. The ECO understands the value of stewardship programs and the importance of community and stakeholder involvement in species at risk recovery activities. However, if the government does not take a leadership role, it may be unlikely that programs will have staying power over the long term. At the very least, the government should ensure that basic monitoring is in place for all listed species at risk.

The responsibilities for protecting and recovering species at risk extend to the entire Ontario government, not just to MNR. The ECO is disappointed that the response statements have not included explicit roles for other government ministries in species protection and recovery. In the past, lack of direction for other ministries has led to confusion on the part of non-MNR government staff as to their responsibilities under the *ESA* (for more information, see pages 45 and 46 of the ECO's 2009/2010 Annual Report). There is little to no evidence that ministries other than MNR assisted in the development of government response statements, or are aware of their possible responsibilities under the statements – contrary to what a "government" response statement should entail as directed by the *ESA*. This issue is of particular concern for species for which extensive inter-ministry co-ordination will be required. For example, in the case of redside dace, municipal planners require provincial guidance, likely in co-ordination with both MNR and the Ministry of Municipal Affairs and Housing.

The ECO has previously noted that government response statements are "one of the most critically important aspects of the new law. [Each statement] will detail what actions the Ontario government will take to actually protect and recover a given species at risk." The government response statements need to provide clarity, direction and measurable targets and benchmarks; they should not be reduced to an empty bureaucratic exercise that merely parrots the government's legislative responsibilities.

The ECO urges the government to re-evaluate its approach for the numerous government response statements still in preparation, and to set measurable targets for species recovery when possible. The ECO also urges MNR to ensure that the annual prioritization of government actions is completed in an open and transparent manner that is in accordance with the *Environmental Bill of Rights, 1993*.

Recommendation 2:

The ECO recommends that MNR ensure that government response statements clearly articulate the actions that the Ontario government will and will not take to protect and recover species at risk.

For a more detailed review please refer to Section 4.13 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.2.1 Snapping Turtles: To Hunt or Protect?

In December 2010, the ECO received an application requesting the Ministry of Natural Resources (MNR) review the *Fish and Wildlife Conservation Act, 1997* (*FWCA*) to de-list snapping turtles as a "game reptile." The snapping turtle (*Chelydra serpentina*) is currently the only species of reptile listed as a "game reptile" in the *FWCA*, and therefore may be harvested by anyone holding a valid recreational fishing licence in Ontario. However, the snapping turtle is also classified as a species of special concern under both federal and provincial species-at-risk legislation.

Based on the snapping turtle's life cycle and threats to its longevity, the applicants argued that permitting recreational fish licence holders to harvest two snapping turtles per day threatens the species' survival in Ontario. They urged the Ontario government to join Quebec and Nova Scotia in prohibiting the hunting of snapping turtles.

In Ontario, snapping turtles primarily are found in the southern part of the province. During nesting season (May-June), females lay up to 50 eggs in nests that are highly susceptible to predators. Only a small percentage of eggs hatch, and hatchlings take 15 to 20 years to reach maturity. Moreover, threats – such as hunting, poaching, persecution, predation, pollution, fish bycatch, and car and boat strikes – all contribute to the decline of snapping turtle populations. Furthermore, the snapping turtle's range is shrinking due to habitat loss and degradation.

Studies indicate that snapping turtle populations continue to decline in Ontario. Extremely low reproductive success, coupled with a reliance on adult longevity for species survival, means that an increase in mortality as small as 1 per cent over natural rates can affect a population's continued existence.

MNR denied the *EBR* application, asserting that it intends to develop a management plan for the snapping turtle by September 2014. MNR stated that there was a low risk of harm to snapping turtles by not conducting the review prior to completing the management plan.

MNR outlined how its "conservative harvest regulations" have reduced pressure on the species. The harvesting of snapping turtles was unregulated until 1990, when snapping turtles were first listed as a "game reptile" under the *FWCA*. As a result, MNR: instituted a two-turtle daily bag limit; disallowed hunting during nesting months; prohibited hunting in provincial parks; and ended the commercial hunt and sale of snapping turtle meat.

For the full text of the ministry's decision, see our website at www.eco.on.ca.

ECO Comment

The ECO disagrees with MNR's decision to deny this application for review. The ministry should exercise a precautionary approach in accordance with its Statement of Environmental Values and impose a moratorium or ban on the hunting of snapping turtles, at least until after this issue has been properly examined with full public consultation.

The ECO is troubled that MNR's current "conservative harvest" rates were determined without proper population monitoring, and that MNR is unaware of the number of turtles that are hunted and killed each year. As such, the ECO does not have confidence in MNR's assertion that its bag limits are sustainable.

Finally, although the ECO appreciates that MNR is required to develop a management plan for snapping turtles, the ECO is concerned that this plan will not be ready to implement before late 2015. In the interim, an unknown number of snapping turtles will continue to be hunted, potentially causing long-term harm to the population.

For a more detailed review of this application, please refer to Section 5.6.2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.3 Wolf Conservation in Ontario: The Disconnect Between Science and Policy

The Canidae family includes wolves, foxes, coyotes, and their hybrids. Several different "types" of wolf-like canids have been described in Ontario. These are the:

- northern gray wolf, which inhabits the subarctic tundra;
- eastern wolf (or "Algonquin type"), which inhabits the deciduous forests of the upper Great Lakes;
- "Great Lakes type," an eastern wolf/gray wolf hybrid that inhabits the boreal forests; and
- eastern coyote, an eastern wolf/coyote hybrid.

Both the provincial *Endangered Species Act, 2007* (*ESA*) and the federal *Species at Risk Act* (*SARA*) list the eastern wolf as a subspecies (*Canis lupus lycaon*) of the gray wolf (*Canis lupus*) and designate it as a "species of special concern." Recent research by Ministry of Natural Resources (MNR) staff and other scientists, however, has suggested that the eastern wolf is not a gray wolf subspecies, but rather a separate species whose taxonomic distinctiveness has been reduced by interbreeding with both coyotes (*Canis latrans*) and gray wolves. If correct, this finding would have numerous management and conservation implications. Accordingly, after reviewing the available scientific and taxonomic information, the U.S. Fish and Wildlife Service acknowledged the presence of two wolf species in the western Great Lakes area (the gray wolf and the eastern wolf), stating that "recent wolf genetic studies indicate that what was formerly thought to be a subspecies of gray wolf is actually a distinct species."

Given recent research results and their ramifications for wolf conservation, in December 2010, two applicants requested that the Ontario government revise its legislative and policy framework for managing wolves. Specifically, the applicants requested that MNR:

- ask the Committee on the Status of Species at Risk in Ontario (COSSARO) to reclassify the eastern wolf to a higher at-risk status under the *ESA* and to assess its taxonomic designation as a unique species (*Canis lycaon*);
- change the eastern wolf's classification under the *Fish and Wildlife Conservation Act, 1997* (*FWCA*) from that of a "furbearing mammal," which can be hunted and trapped in accordance with specific conditions, to a "specially protected mammal," which cannot be hunted or trapped except in defence of property;
- review its Strategy for Wolf Conservation in Ontario (2005); and
- prohibit the harvesting (i.e., hunting and trapping) of wolves in protected areas.

Ministry Response

In March 2011, MNR denied the application for the following reasons.

First, MNR concluded there is no need to ask COSSARO to reassess the eastern wolf's *ESA* status since COSSARO is expected to do so in spring 2013 after receiving an updated status report from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). (COSEWIC, the federal committee that classifies at-risk species under the *SARA*, is scheduled to reassess the eastern wolf's classification in April 2013.)

Second, MNR argued that the eastern wolf's current *FWCA* classification as a furbearing mammal "allows flexibility to implement appropriate regulatory measures to conserve wolf populations while providing a wider range of tools available to landowners experiencing conflicts with wild canids (e.g., coyote)." MNR reasoned that reclassifying the eastern wolf as a specially protected mammal would "provide no further advantage for wolf protection and would prevent flexibility in species management."

Third, with regard to the request to review the Strategy for Wolf Conservation in Ontario, MNR concluded that although research is providing important information on eastern and gray wolves, it is important to obtain the final results of the ministry's research in order to make informed decisions on whether a review of Ontario's wolf strategy is required following COSEWIC's and COSSARO's re-assessments.

Finally, in response to the applicants' request to prohibit the harvesting of wolves in protected areas, MNR responded that section 15(1) of the *Provincial Parks and Conservation Reserves Act, 2006* (*PPCRA*) already prohibits the hunting of eastern wolves in provincial parks. According to MNR, approximately one-third of the commercial trapping licences held in provincial parks may only be held for the licence holder's lifetime; once those trapping licences lapse, they will not be renewed for non-Aboriginal trappers. Moreover, no new traplines may be registered within provincial parks or conservation reserves. MNR noted that wolf hunting is consistent with the objective of conservation reserves to provide opportunities for ecologically sustainable land uses.

For the full text of the ministry's decision, see our website at www.eco.on.ca.

New Information

Five months after the applicants submitted their application, a peer-reviewed study was published that used a new genomic tool to examine the genetic relationships of wolf-like species worldwide. Amongst other things, the study found that both the "Great Lakes wolf" and the eastern (or "Algonquin") wolf have highly blended genomes derived primarily from gray wolves. This study, therefore, reopens the debate as to whether the eastern wolf is a unique species closely related to the red wolf (*Canis rufus*).

ECO Comment

The ECO is disappointed that the ministry denied this review; a request to review a ministry policy due to new scientific information – some of it generated by MNR itself – is an excellent use of the rights afforded the public under the *Environmental Bill of Rights, 1993*.

In its response to the applicants, MNR asserted that "there is presently not complete scientific agreement that the eastern wolf is a unique species," an assertion supported by the release of a new genetic analysis (see New Information above). Prior to this study's publication, however, the most recent scientific information rejected the hypothesis that the eastern wolf is a gray wolf subspecies. Likewise, MNR's 2007 State of Resources report on wolves states that "there are two species of wolf in Ontario: the gray wolf… and the eastern wolf," and MNR's Backgrounder on Wolf Conservation in Ontario (2005) explains that research "concludes that the eastern wolf (*C. lycaon*) is a distinct species of wolf very closely related to the red wolf (*C. rufus*), rather than a subspecies of gray wolf as originally thought." To avoid the confusion caused by contradictory messages, it is imperative that MNR revise its policies and publications to reflect the current state of the science.

Irrespective of any future *ESA* re-classification, MNR should revise its Wolf Conservation Strategy to reflect new information. Although the strategy itself states that MNR will "develop and maintain adequate policy and legislation/regulation support for wolf conservation by: reviewing legislation, regulations and policy direction periodically in light of new information" and "revising conservation approaches as new knowledge and information becomes available," the strategy was not updated to reflect scientific studies that suggest that the eastern wolf is a unique species. Other information that could be considered includes the finding that protecting wolves from harvesting can restore the natural social structure of their packs. The ECO urges MNR to actually employ the adaptive management approach referred to in its strategy and update its policy and regulatory framework accordingly.

Almost a decade ago, the ECO urged MNR to consider classifying the eastern wolf as a specially protected mammal until it is no longer considered a species of special concern. The ECO is entirely unconvinced by MNR's argument that classifying the eastern wolf as a specially protected mammal would provide no further protection, otherwise there would be no reason for this classification to exist. Rather, the ECO considers the protection from hunting and trapping afforded by the *FWCA*'s specially protected mammal category to be a considerably higher level of protection. The ECO is also unimpressed with MNR's argument that classifying the eastern wolf as a furbearing mammal provides "a wider range of tools" for managing landowner-coyote conflicts. The ECO considers this a poor excuse for limiting the protection of a species at risk – especially since the *FWCA* allows landowners to capture or kill wildlife (including specially protected mammals) that are damaging or about to damage their property. MNR's priority must be conserving at-risk species, not simplifying its management of nuisance animals.

The ECO acknowledges that hunting, in general, may be consistent with the objective of conservation reserves to provide outdoor recreational opportunities. Nevertheless, the ECO believes that – except for the traditional activities of First Nations and Aboriginal peoples – it is inappropriate to allow the harvesting of species at risk in any protected area, whether it is a provincial park or conservation reserve. Indeed, the *PPCRA* states that the maintenance of ecological integrity, including healthy and viable populations of species at risk, shall be the first priority in planning and managing provincial parks and conservation reserves.

Finally, although wolf hunting is prohibited in provincial parks, the trapping of wolves – which has resulted in much higher wolf mortality rates than hunting in recent years – is not. If MNR's reluctance to prohibit trapping of eastern wolves in provincial parks is related to the inability of traps to discriminate among species, the ECO urges MNR to prioritize the conservation of species at risk and promptly ban trapping in provincial parks altogether. The ECO notes this issue would have been addressed if MNR had held to its long-standing policy to phase out trapping in provincial parks by 2010; unfortunately, MNR reversed its position at the eleventh hour and granted non-transferrable lifetime extensions, allowing trapping in provincial parks to continue.

Recommendation 3:

The ECO recommends that MNR ban both the hunting and trapping (except by First Nations and Aboriginal peoples) of species at risk in all protected areas.

For a more detailed review of this application, please refer to Section 5.6.3 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.4 Ontario Cougars: On the Prowl for Protection

In January 2010, two individuals submitted an application to the ECO alleging that commercial forestry operations in the Nighthawk Forest, near Timmins, contravened the *Endangered Species Act, 2007* (*ESA*) by destroying cougar habitat. Since cougars are currently listed as "endangered" on the Species at Risk in Ontario List and receive habitat protection under the *ESA*, the applicants claim that the damage or destruction of this species' habitat is prohibited. The Ministry of Natural Resources (MNR) denied this application for investigation in April 2010.

Cougars in Ontario

The cougar (*Puma concolor*), also known in Ontario as the eastern cougar or puma, is the largest cat species in North America. A highly adaptable species, cougars were once one of the most widely distributed land mammals in the western hemisphere. However, early settlers across eastern North America viewed cougars as a threat to livestock and public safety, and hunted and trapped them extensively. By the late 1800s, cougars were believed to be extirpated in much of their former eastern range, including in Ontario. The last reported cougar shooting in Ontario occurred in 1884 near Creemore. Since that time, the presence of cougar populations in Ontario has been disputed.

Since 2002, over 2,000 cougar sightings have been reported in the province. Yet, the provincial government has been hesitant to confirm the existence of wild cougars in Ontario, since relatively few pieces of "material evidence" of cougar presence – such as photos, scat or DNA – have been collected. Many reported sightings have been dismissed by MNR as:

» misidentification (e.g., sightings of lynx, bobcats, fishers, coyotes or even house cats);

» captive cougars that have escaped or been intentionally released into the wild; or

» wild-born cougars from western populations moving eastward into Ontario.

Conversely, the Ontario Puma Foundation believes that approximately 550 cougars inhabit Ontario, with populations dispersed across the province.

In 2007, MNR began a research study on Ontario's cougars, aimed at collecting quantitative data on the presence and distribution of the species in the province, to "test the hypothesis that there are no free-ranging cougar genotypes in Ontario." As of August 2011, the study had not been completed.

Forestry and Cougar Habitat Protection

As an endangered species, it is prohibited to harm or harass cougars in Ontario, or to damage or destroy their habitat. Cougars received automatic general habitat protection when the *ESA* came into force on June 30, 2008.

Species at risk and their habitats are specifically protected by mechanisms within forest management planning. Provisions in MNR's Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales provide fine-scale direction for planning protection for cougar den sites while continuing forest operations. Area-specific Forest Management Plans (FMPs) are required under the *Crown Forest Sustainability Act, 1994* (*CFSA*) before a commercial harvest. Along with detailed information on planned operations, management direction and monitoring activities, an FMP also details how particular species and their habitats will be avoided or protected during forestry operations (for example, by leaving buffer zones around cougar dens).

However, before being considered within an FMP, a species and/or its habitat must be identified and verified as a "value" by MNR. Although members of the public can identify values, MNR must verify them in accordance with the ministry's Forest Information Manual before such values become subject to direction under the Stand and Site Guide, and subsequently an FMP.

Summary of Issues

The applicants allege that in damaging cougar habitat, commercial forestry operations in the Nighthawk Forest, near Gibson Lake, contravened section 10(1)(a) of the *ESA*, which states that no person shall damage or destroy the habitat of an endangered species.

The applicants contend that the Nighthawk Forest is cougar habitat, as several documented and independent sightings of cougars have been reported in the area. The applicants assert that the forest's FMP failed to identify or protect cougar habitat. The applicants contend that MNR failed to follow its Statement of Environmental Values when approving the FMP, as it did not take a precautionary or ecosystem approach. Further, the applicants state that the "recent *ad hoc* attempts by the MNR to detect [c]ougars in the Nighthawk Forest ... do not involve the public, affected stakeholders, [or] First Nations and do not meet the MNR's obligation under the *ESA* and *CFSA*."

Ministry Response

MNR cited several reasons for denying this application for investigation. MNR contended that cougar sightings described by the applicants were unverified and not substantive enough to confirm the presence of cougars. The ministry stated "definitive photos or DNA evidence is required to validate the presence of cougar" and notes that no occurrences of cougar in the Timmins area have been confirmed by MNR to date. The ministry further noted that "with limited unverified data, or unless a physical feature such as a den is discovered, it is not reasonable to conclude the Nighthawk Forest is cougar habitat." Therefore, cougar habitat was not considered a "value" for the purposes of Nighthawk Forest management planning.

MNR stated that "to test whether an activity damages or destroys cougar habitat, one must assess whether an activity would impair or eliminate one or more of the functions of the habitat." The ministry noted that current forest management practices create a mosaic of vegetation stages and patterns that would maintain habitat functionality for cougar, and would not be considered "damage or destruction" under the *ESA*.

For the full text of the ministry's decision, see our website at www.eco.on.ca.

ECO Comment

MNR was technically justified in denying this application for investigation. However, the ministry's response brings to light several concerns with how MNR interprets its responsibilities towards species at risk.

Despite sightings by local residents, MNR has never confirmed cougars or their habitat in the Timmins region. Accordingly, under current ministry policies, no further cougar-related requirements apply. The ECO is concerned that MNR's stringent verification methods are excluding public input into the values identification process (for another example of this concern, see "Up the Creek without a Paddle" in Part 7.5 of this Annual Report).

The ECO believes MNR's narrow interpretation of "habitat" as defined in the *ESA* is troubling. Since cougars are habitat generalists – that is, they adapt and survive in a great variety of habitat types – by MNR's interpretation, cougar habitat is not destroyed unless a den is destroyed. The ECO believes that this approach is contrary to the intent of the *ESA*, which explicitly indicates that habitat includes areas that species depend on indirectly for life process, such as feeding and migration – functions that would not be protected under the ministry's apparent interpretation.

The wider implications of the ministry's limited approach to habitat protection apply to other species as well. MNR's approach seems to ignore the gradual degradation of habitat quality. Habitat loss is not necessarily binary – lost or not lost, functioning or not functioning – and the degradation of habitat is also a major factor in a species' health and long-term viability. To truly prevent species loss and recover those species already at risk, the ECO urges MNR to ensure that habitat quality is taken into account in its definition of habitat damage or destruction.

The ministry has a legal responsibility under the *ESA* to protect and recover cougars in Ontario. A final recovery strategy for the cougar is required to be prepared and made available to the public by June 2013, with a government response to the strategy required by March 2014. The ECO therefore looks forward to government action to protect and recover cougars, as is intended under the *ESA*.

For a more detailed review of this application, please refer to Section 6.2.2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.5 Woodland Caribou Conservation: Going Nowhere Fast

The forest-dwelling boreal population of woodland caribou (*Rangifer tarandus caribou*) is listed as a threatened species under Ontario's *Endangered Species Act, 2007*. Sensitive to human disturbances, such as forestry operations and road building, the species is an indicator of the ecological impact of development in northern Ontario.

Unfortunately, to date only crude population estimates and delineations of herd ranges have been publicly available. This has long been a concern to the ECO; we first called on the Ministry of Natural Resources (MNR) to develop a caribou monitoring program in our 2001/2002 Annual Report.

Members of the public share this concern. In 2006, the ECO received an application for review that raised broad concerns about Ontario's regulatory framework for the management of woodland caribou, including inadequate monitoring. MNR agreed to undertake a "scoped review," focusing only on provisions for monitoring woodland caribou and their habitat.

Ontario's Woodland Caribou Conservation Plan

Ontario's Woodland Caribou Conservation Plan (October 2009) represents the official government response to the Recovery Strategy for the Woodland Caribou (Forest-dwelling, Boreal population) in Ontario (July 2008). Both documents are required under the *Endangered Species Act, 2007*. The Caribou Conservation Plan outlines measures the government intends to take to protect and recover woodland caribou and its habitat.

The ECO reviewed the Caribou Conservation Plan in our 2009/2010 Annual Report, concluding that the government's planned approach is simply a reiteration of the very *status quo* that has caused the northward range recession of woodland caribou.

In September 2010, MNR provided the results of its review. MNR waited to finalize its review until after it had released Ontario's Woodland Caribou Conservation Plan in October 2009. In its response to the applicants, MNR provided, among other things, a breakdown of the monitoring requirements for each strategy and action identified in the Caribou Conservation Plan. The ministry reported that it would be developing a two-phase "implementation plan," and that a full monitoring strategy would emerge from the second phase of the plan. (For the full text of the ministry's decision, see our website at www.eco.on.ca.)

In fact, the Caribou Conservation Plan prioritized completing the implementation plan within six months (i.e., by April 2010), and targeted the monitoring plan, including standards and protocols, for completion within one year (i.e., by October 2010). As of July 2011, however, neither document has been released; MNR has a long history of repeatedly failing to meet timelines related to measures for woodland caribou.

In July 2011, MNR informed the ECO that it has completed an estimate of Ontario's caribou population, as well as two integrated range assessments, and that it will be releasing both a report on caribou range delineation and an "18-month implementation report outlining accomplishments to date" by fall 2011. While the ECO is pleased to learn of this development, we are extremely disappointed that MNR did not first release its implementation plan and caribou monitoring strategy, both of which ought to have undergone public consultation under the *Environmental Bill of Rights, 1993* (*EBR*) prior to being implemented.

Ontarians have a high degree of concern about the province's plans for woodland caribou conservation, and the consequences to forestry in particular. For example, caribou habitat regulation has been an issue of heated public debate (to read about how MNR circumvented its *EBR* obligations to consult the public on its proposed approach to regulate caribou habitat, see Part 8.4 of this Annual Report). By failing to keep the public informed of its progress, MNR is allowing this public anxiety to fester. Monitoring information is critical to framing this sensitive dialogue; only with a current and clear understanding of caribou population, range and distribution can a rational discussion be had about conserving Ontario's caribou. If robust monitoring data were publicly available, the public might be surprised by the limited extent to which conservation measures would actually affect local communities. The ECO therefore urges MNR to make releasing all of these documents – in full compliance with its public consultation obligations under the *EBR* – a high priority.

For a more detailed review of this application, please refer to Section 5.6.1 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

3.6 Recognizing the Need for Green Infrastructure

Aging American cities share some familiar headaches: their stormwater systems are polluting waterways and prone to flooding; their residents often breathe smoggy air; and heat waves can make summer days miserable. Increasingly, cities like Philadelphia and Portland are responding by taking a leaf out of nature's book. Instead of spending billions of dollars on traditional big pipes and concrete infrastructure, they are engaging the powerful solutions offered by "green infrastructure." The ecological services provided by urban forests, wetlands, greenways, soils and green roofs can all be harnessed at varying scales to filter, store and cool water, to support biodiversity, to improve urban air quality, and to moderate temperatures and wind. In effect, green infrastructure allows planners and engineers to work with nature rather than sealing it in concrete.

In 2010, Ecojustice filed an Application for Review under the *Environmental Bill of Rights, 1993* (*EBR*) on behalf of two members of the recently formed Green Infrastructure Ontario Coalition requesting that six Ontario ministries redefine "infrastructure" to encompass "living green infrastructure." The applicants requested that the Ministry of Municipal Affairs and Housing (MMAH), the Ministry of Infrastructure (MOI), the Ministry of Transportation (MTO), the Ministry of Natural Resources (MNR), the Ministry of the Environment (MOE) and the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) replace their current definitions of infrastructure with the following:

> Living Green Infrastructure – Natural or engineered ecological processes or structures, that process, capture, and direct water, stormwater, and wastewater in a similar manner to grey infrastructure, yet have multiple societal benefits.

The application lists a number of examples of living green infrastructure, including urban forests and other natural areas, greenways, streams and riparian zones, green roofs and green walls, rain gardens, bioswales, and engineered wetlands and stormwater ponds. It also includes technologies like porous paving, rain barrels, cisterns and structural soils.

Background

For the purposes of this discussion, MMAH is responsible for the key definition of "infrastructure" in the Provincial Policy Statement, 2005 (PPS). This definition is carefully constrained to mean built structures, or "grey infrastructure," and points to examples such as sewage and water systems, waste management systems, electric power generation and transportation corridors. At least six Ontario ministries share decision-making responsibilities related to infrastructure that are linked to this PPS interpretation. Green infrastructure is clearly not yet part of Ontario's policy lexicon.

MOI has a key role, and in June 2011 released a long-term infrastructure plan for Ontario, called Building Together. In a positive development, this new plan does contain language encouraging the use of green infrastructure by municipalities. Similarly, MTO oversees the maintenance of 16,500 kilometres of existing roads and right-of-ways, as well as major highway expansion projects worth billions of dollars, with great potential to shift towards greener stormwater management approaches. Both MNR and MOE have existing regulatory and advisory roles in infrastructure approvals, and would need seats at the table in the development of green infrastructure approaches.

OMAFRA oversees the province's roughly 57,000 farm operations, where green infrastructure solutions, such as vegetated buffers and shelter belts, also have high promise. Farm run-off remains a major water quality concern in the Great Lakes basin, especially for areas with high concentrations of livestock and historically high incidences of reported manure spills, such as Ontario's Huron County shoreline. Similarly, in Lake Simcoe's watershed, farm activities are responsible for about 25 per cent of total phosphorus loadings. OMAFRA also regulates agricultural drains through the *Drainage Act*, with problematic implications for rural wetlands, as the ECO noted in our 2009/2010 Annual Report.

In 2011 all six ministries denied the applicants' request for a greener definition of infrastructure. Although each ministry provided its own rationale, the common underlying message was that green infrastructure may be a good idea, but Ontario's current framework of laws and policies is already adequate.

ECO Comment

The ECO is convinced that Ontario needs to introduce "green infrastructure" into its policy lexicon. The existing suite of policies does not effectively recognize or harness the vital services provided by urban forests, wetlands, woodlands and other forms of green infrastructure.

Ontario needs to prepare for the twin challenges of a rapidly growing population and a less predictable future climate, marked by more extreme weather events and higher flooding risks. Facing the same challenges, other jurisdictions have recognized that green infrastructure tools are critical. For example, the U.S. Army Corps of Engineers has recognized that the loss of coastal wetlands around New Orleans significantly worsened the impacts of Hurricane Katrina. The measurable contributions that urban trees make on air quality, local climate moderation and water management are also widely recognized. For example, energy savings attributed to shading by mature trees around U.S. residences are estimated at about $2 billion annually, while the direct carbon storage of urban trees in the U.S. is valued at $14.3 billion, according to the U.S. Department of Agriculture.

Ontario has its very own cautionary tale of how unwise land use practices can devastate whole landscapes – and how restoring such lands means working with nature. The Ganaraska region near Port Hope was reduced from dense forest to a barren waste and areas of blowing sand by the 1940s after generations of unsustainable farming and forestry practices. The area's restoration through the planting of millions of trees has been a testament to good stewardship and a reminder that Ontario depends on its existing green infrastructure, just as surely as New Orleans needed its coastal mangrove wetlands.

Despite turning down this application request, MMAH promised to consider the issue within the ongoing five-year review of the PPS. The ECO encourages MMAH to make green infrastructure a major focus of PPS reform and to work closely with MOE. Over the longer term, bringing green infrastructure into the mainstream of Ontario's planning and design approaches will also likely require reforms to the *Planning Act* and the *Building Code Act, 1992*.

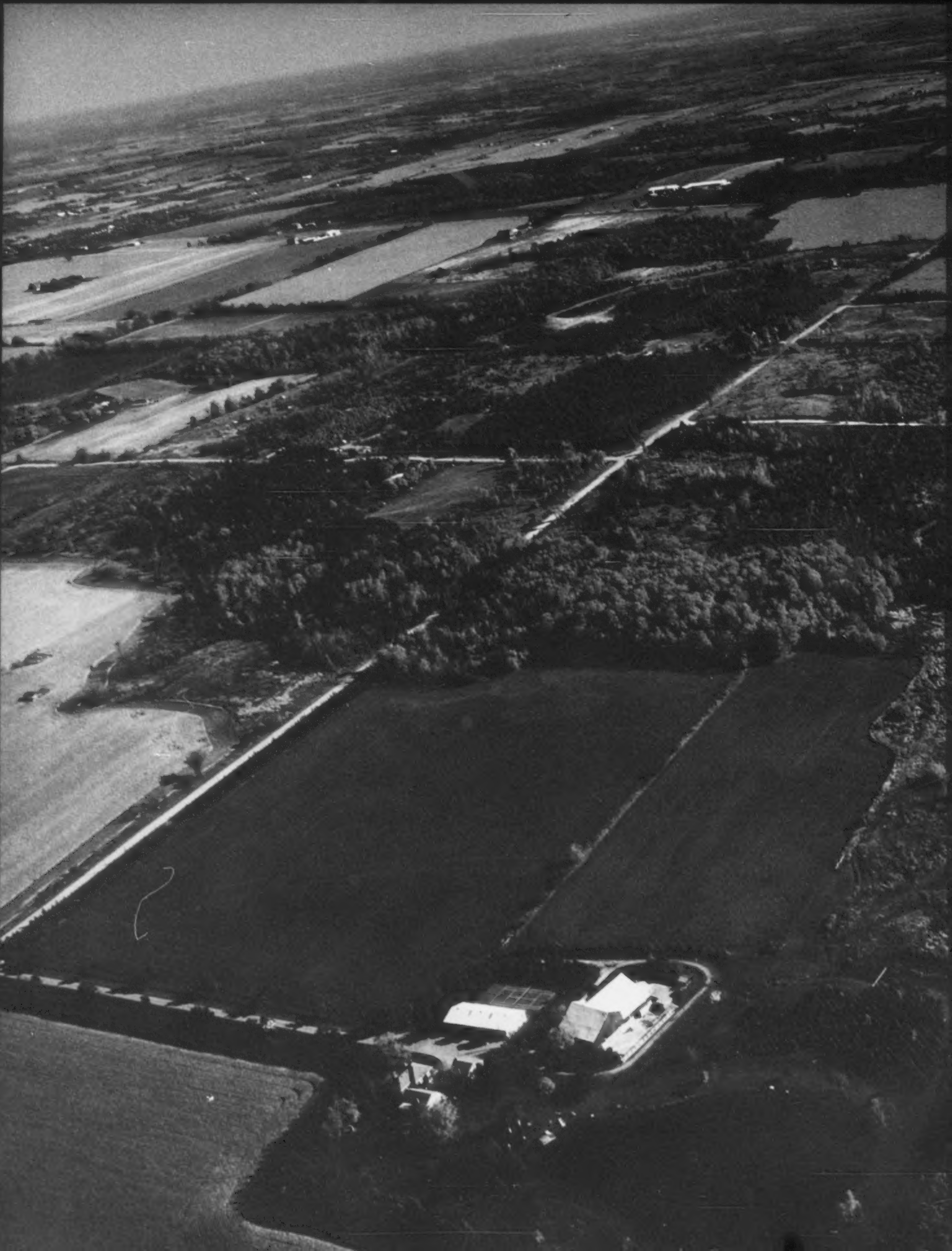
The ECO also sees compelling stewardship arguments for MOI to seize the huge potential embodied in green infrastructure, and to translate the encouraging green language of Building Together into pilot projects, measurable targets and goals. This ministry was charged with oversight of close to $16 billion worth of infrastructure projects in 2010/2011 alone. Green infrastructure can provide cost-effective approaches in many settings and at many scales, and deserves serious examination by MOI.

Collaborative teamwork involving OMAFRA, MTO, MNR and, above all, MOE will be needed to move Ontario's thinking outside the "grey infrastructure" box. For OMAFRA, tackling agricultural run-off remains a big challenge and, so far, the ministry has not been able to quantify or estimate the cumulative environmental effectiveness of its existing approaches under the voluntary Environmental Farm Plans. *Drainage Act* reforms should also be part of the dialogue, as well as practices to better harness the water filtration and storage services of rural wetlands. For MTO, a priority should be to incorporate and emphasize green infrastructure approaches in its key guidance documents, such as the Class Environmental Assessment for Provincial Transportation Facilities (Highway Projects).

More than any other ministry, MNR is seen as the steward of Ontario's wetlands and woodlands, which provide the under-appreciated services of storing and purifying water, moderating temperatures and sequestering carbon. A more enlightened vision would legitimize MNR's efforts to protect wetlands, woodlands and other natural heritage features, especially in urbanizing areas, on account of their enormous practical value as green infrastructure.

MOE denied this application, but the ministry's response also showed keen awareness that change is needed. MOE should request the go-ahead from Cabinet to engage the solutions represented by green infrastructure. This cannot be a one-ministry job; the new approaches will need to be integrated into the stewardship philosophies, engineering toolkits, guidance on environmental assessments and daily decision making of numerous ministries. MOE should be given a senior role in these reforms, along with MMAH, and should be assured the full engagement and support of sister ministries.

For a more detailed review please refer to Section 5.5.3 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.



PART 4 PLANNING SOLUTIONS

Part 4 – Planning Solutions

Land use planning decisions can not only alter natural landscapes such as woodlands, but these decisions can also greatly affect water quality and aquatic ecosystems. In this part of the Annual Report, the ECO reviews a number of land use planning policy decisions that can affect both terrestrial and aquatic environments.

In this reporting year, the Ministry of Natural Resources (MNR) updated and created a few policies related to land use planning. It updated the Natural Heritage Reference Manual, a document that provides valuable guidance on implementing natural heritage policies of the Provincial Policy Statement, 2005. MNR created a new policy for its long-running and successful Conservation Land Tax Incentive Program and a new policies and procedures document that outlines conservation authorities' valuable roles in land use planning review and permitting.

Traditionally, land use planning tended to focus on the impacts development could have on the land. Today, the government's focus is shifting to acknowledge that land use affects our water. In response to the Walkerton tragedy that took place 11 years ago, the Ministry of the Environment (MOE) created a new program for source water protection under the *Clean Water Act, 2006*. MOE's recent regulation amendments to establish source protection plan requirements are a key step to implementing this Act.

When the amount of phosphorus that enters a lake increases, it can significantly alter the water quality and degrade the habitat of cold water fish species. There are many sources of phosphorus, including activities associated with development along the shorelines and within a watershed. Recent ministry decisions, such as MNR's Lakeshore Capacity Assessment Handbook and MOE's Lake Simcoe Phosphorus Reduction Strategy, present solutions to controlling and reducing the amount of phosphorus entering specific lakes in Ontario.

Urban stormwater runoff is a major source of phosphorus and other pollutants. It can cause flooding and erosion, and alter stream channels and aquatic habitat. Stormwater management facilities reduce the impacts of urban development on water bodies. The ECO discusses the management of stormwater management facilities and MOE's oversight to ensure the infrastructure continues to function properly.

4.1 Connecting the Green Dots: The Natural Heritage Reference Manual

Woodlands, wetlands and wildlife are integral parts of our natural environment, inherently connected to our communities. In Ontario, the Provincial Policy Statement, 2005 (PPS) provides direction for land use planning related to natural heritage features and systems. It also provides important direction for other land use decisions, such as urban expansion or aggregate extraction, that often conflict with environmental protection measures.

In April 2010, the Ministry of Natural Resources (MNR) published the second edition of the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (the "Manual"). The Manual provides MNR's direction on what planning authorities, such as municipalities, planning boards and conservation authorities, should consider when creating, reviewing or approving land use policies or vetting development proposals.

One-Window Planning System

Up until the mid-1990s, MNR, the Ministry of the Environment (MOE) and other ministries all reviewed and approved planning documents and applications. Each ministry was an approval authority and provided a separate position based on its mandate. Each could appeal decisions to the Ontario Municipal Board (OMB).

In 1996, this process changed with the introduction of the municipal plan review and the one-window planning service, which were designed to streamline and co-ordinate the review of land use planning applications. Under the new processes, the approval authority is either the Ministry of Municipal Affairs and Housing (MMAH) or the municipality. When MMAH is the approval authority (one-window planning service), ministries can provide input to MMAH on policy positions and technical reviews when requested (e.g., for official plan amendments). When the municipality is the approval authority (municipal plan review), ministries like MNR and MOE do not officially review planning applications. Other than MMAH, ministries cannot appeal municipal decisions to the OMB. To aid municipalities in their new role, MNR, MOE and other ministries share data and create reference manuals, such as the Natural Heritage Reference Manual, on specific technical issues related to the PPS and matters of provincial interest.

Natural Heritage Reference Manual

The Manual synthesizes MNR's recommended technical criteria and approaches for planning authorities to implement PPS natural heritage policies on the ground (e.g., during the development, review and approval of official plan amendments and during the review and approval of development applications). It also provides guidance for matters before provincial boards and tribunals, such as the OMB. MNR revised the Manual to be consistent with the 2005 PPS policies and to update its technical information based on advancements in our understanding of natural heritage over the last decade.

For example, the Manual provides guidance in the following areas:

- Recommending evaluation criteria and standards for municipalities to identify significant woodlands and significant valleylands. The ECO has previously commented on the lack of evaluation criteria for significant woodlands and recommended in our 2008/2009 Annual Report that MMAH's 2010 review of the PPS should introduce effective mechanisms for protecting significant woodlands, including mechanisms for woodland evaluation, designation, tracking and reporting;
- Recommending adjacent land widths for natural heritage features where development may affect features' ecological functions (in most cases, these areas have been increased from the 1999 edition of the Manual);
- Providing guidance for planning authorities to determine whether there are "no negative impacts" from proposed development and site alteration (e.g., what should be included in an environmental impact study) on natural heritage and potential mitigation measures;
- Providing guidance for municipalities to update their official plans and zoning by-laws to reflect any changes to criteria between the first and second edition of the Manual; and
- Increasing emphasis on the connectivity and linkages between natural heritage features.

Natural Heritage System Planning

Prior to European settlement, large connected forests, wetlands and other natural areas covered most of southern Ontario. As the population increased, urban and suburban development, farms, aggregate pits, roads, railways and utility corridors spread across the landscape. Approximately 80 per cent of woodlands, 72 per cent of wetlands and more than 99 per cent of prairies and savannahs have been lost in southern Ontario since pre-settlement times.

Historically, environmental planning focused on protecting areas on a feature-by-feature basis. For example, some forms of development would not be allowed within a feature, such as a provincially significant wetland. Yet, development would be allowed around it, potentially isolating it and impairing many of its key ecological values. This resulted in smaller, disconnected "islands of green" that were surrounded by houses, buildings and roads. This fragmentation of ecosystems – a key driver of biodiversity loss in southern Ontario – leads to habitat degradation and loss, accelerates species conversion and loss from edge effects, and facilitates the invasion by non-native species. The long-term survival of plants and animals is threatened when their ability to disperse to other natural areas is reduced.

Rather than planning for the protection of individual features, the concept of landscape or natural heritage system planning is a more effective method of maintaining, conserving and restoring fragmented natural landscapes and biodiversity. The PPS defines a natural heritage system as "a system made up of natural heritage features and areas, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state."

Natural heritage systems planning allows the whole to be considered as a collection of interacting parts, rather than viewing such things as wetlands and woodlands as discrete and disconnected entities. A number of jurisdictions, including those in British Columbia, Florida, Germany and the Netherlands, are now using this concept to maintain or restore linkages between features and to address other issues, such as climate change, ecological resilience, ecosystem services and community public health.

The PPS does require that "the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features." However, it fails to take the critical next step and actually *require* municipalities to identify and plan for natural heritage systems. Thankfully, some municipalities and conservation authorities have voluntarily undertaken the preparation of natural heritage system plans (see Figure 4.1.1).

In southern Ontario, a patchwork of natural heritage systems has been identified at the municipal, watershed and regional levels (e.g., the Greenbelt and Oak Ridges Moraine). However, there is still no "big picture" or coarse-scale natural heritage system developed by the government for southern Ontario that connects the local and regional features, functions and linkages.

In the absence of a provincially defined system, environmental organizations, occasionally in collaboration with MNR, have taken the lead to fill this gap. For example, in 2002 the Nature Conservancy of Canada, in partnership with MNR's Natural Heritage Information Centre, expanded Carolinian Canada's Big Picture project to identify key natural areas and linkages in southern Ontario. Unfortunately, these types of exercises carry little, if any, legal weight as they are not considered to be Ontario government policy.

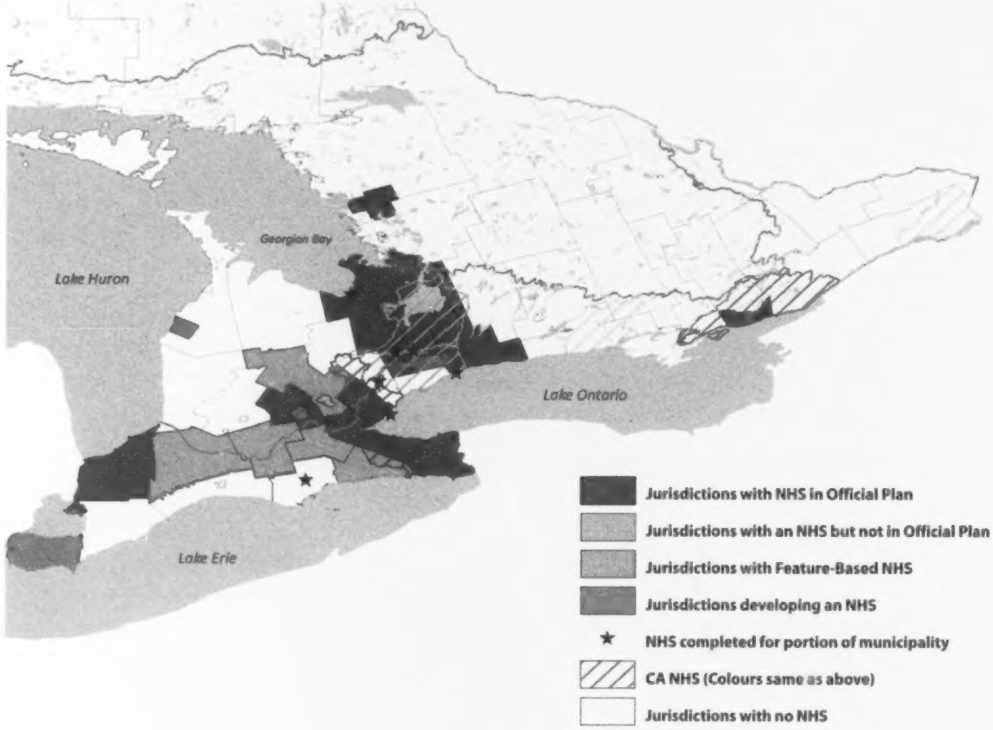

Georgian Bay
Lake Huron
Lake Ontario
Lake Erie
Jurisdictions with NHS in Official Plan
Jurisdictions with an NHS but not in Official Plan
Jurisdictions with Feature-Based NHS
Jurisdictions developing an NHS
★ NHS completed for portion of municipality
CA NHS (Colours same as above)
Jurisdictions with no NHS

Figure 4.1.1. The general status of natural heritage systems (NHSs) developed and incorporated into municipal official plans in southern Ontario. Source: Ministry of Natural Resources, 2010.

ECO Comment

The ECO commends MNR on its development of the new Natural Heritage Reference Manual, particularly with its increased emphasis on linking and connecting wetlands, woodlands and other natural heritage features. MNR has brought important ecological knowledge into the land use planning process. This Manual should serve as a useful tool for municipalities and other planning authorities that are either beginning or in the process of identifying and planning their local natural heritage systems.

Our understanding of the importance of planning for natural heritage systems and providing connectivity among natural heritage features has evolved considerably in the last decade. While MNR amended the Manual to reflect much of this progress, the PPS itself remains relatively unchanged. This is a critical flaw undermining the specific application of the Manual and, more broadly, the knowledge gained in recent years. The ECO has repeatedly reported that the PPS fails to adequately protect natural heritage features and systems because of its "development-first, environment-second" approach to land use planning. It also ignores the reality that landscape features and functions drive land uses (and their constraints) as much as, if not more, than our economy does.

While the PPS states that natural heritage systems should be maintained, restored or, where possible, improved, it fails to require that municipalities identify and plan local systems. Some municipalities and conservation authorities, nevertheless, have developed or are developing plans for protecting natural heritage systems and have been or are integrating them into official plans. These municipalities and conservation authorities are to be commended. The ECO urges MMAH to amend the PPS to require that all municipalities identify natural heritage systems and include them in their official plans.

Where they exist, local natural heritage systems are extremely beneficial, but they may lack the added direction of big picture thinking tying them to the broader landscape. In southern Ontario, the government has not publicly released a complete coarse-scale or overlay natural heritage system. While the government has identified natural heritage systems in specific land use plans, such as the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan, they only cover a small portion of southern Ontario. To stem the loss of biodiversity, perhaps our province's greatest challenge in the decade ahead, the ECO believes that it is imperative for MNR to develop a coarse-scale natural heritage system for southern Ontario. This provincial direction is needed by municipalities to build upon when identifying and planning their fine-scale systems to connect greenlands.

Recommendation 4:

The ECO recommends that MNR develop a coarse-scale, overarching natural heritage system for southern Ontario.

For a more detailed review of this decision, please refer to Section 4.10 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.1.1 An Incentive for Private Land Conservation

Ontario has a rich and varied natural heritage. However, many significant natural areas are on private property, limiting the government's ability to maintain and protect the natural heritage values found within them. In July 2010, the Ministry of Natural Resources (MNR) finalized both a policy document and a guide in support of its Conservation Land Tax Incentive Program (CLTIP). This voluntary program, operating since 1998, encourages stewardship by offering 100 per cent property tax relief for the eligible portion of a property to landowners who protect the natural heritage and biodiversity values of that property.

The regulatory basis for the CLTIP is outlined in O. Reg. 282/98, made under the *Assessment Act*. This regulation describes those conservation lands that are considered exempt for taxation purposes, and describes the steps a landowner must take to apply and qualify for an exemption. Among these provisions, a landowner must undertake "not to engage in activities during the taxation year that are inconsistent with the natural heritage and biodiversity objectives for conserving the land." The regulation does not specify, however, what activities are prohibited on approved lands. This information is contained in the CLTIP policy that was posted to the Environmental Registry for public comment on April 30, 2010, and that came into effect July 5, 2010. The CLTIP policy provides greater clarity by establishing the framework for evaluating the compatibility of land use activities with the program, and by providing a (non-exhaustive) list of land uses that are permitted or prohibited under the CLTIP.

Since December 10, 2004, one of the land types eligible under the CLTIP is Community Conservation Lands (CCL), which are lands owned by conservation authorities or eligible charitable conservation organizations with a primary objective of natural heritage conservation. In July 2010, MNR also approved the CLTIP Community Conservation Lands Guide (the "CCL Guide") to assist conservation groups and authorities in determining whether a property is eligible under the CCL category and, if so, in preparing a CLTIP application. The CCL Guide is useful in that it provides timelines on the application/notification process, a description of the documentation required for an application, guidance on invasive species control and information on the native tree species that are appropriate for land restoration.

The CLTIP is one of the most important environmental stewardship programs for private lands in Ontario and is a cost-effective approach to conserving important ecological systems. The ECO is pleased that MNR finally created a policy for this program, which has been operating for over a decade. The ECO is also glad that in posting the CLTIP policy on the Environmental Registry, MNR has finally given the public an opportunity to comment on the CLTIP as a whole; previous Environmental Registry notices precluded public comment or addressed only limited aspects of the program.

The ECO is disappointed, however, that the CLTIP and CCL Guide fail to clearly inform the public that new owners of lands (within an eligible feature or designation) that are currently ineligible because of previous disturbance, including commercial harvesting in the past 10 years, may be eligible for the CLTIP, as long as any necessary restoration efforts have been completed. It is important that conservation authorities and other land conservation organizations know that in acquiring recently disturbed lands, they will not be penalized for the land use activities of previous property owners and may be eligible to participate in the CLTIP once appropriate restoration activities have been completed.

While the CLTIP is a positive initiative that supports conservation in Ontario, the ECO has mentioned before that the province may need to pay attention to and, on occasion, financially assist certain smaller municipalities with limited tax bases and extensive eligible conservation lands (see page 63 of the Supplement to the ECO's 2005/2006 Annual Report). In response to this issue, the Ministry of Finance explained that although the government does not directly compensate municipalities for revenue losses resulting from tax-exempt conservation lands, when calculating transfer payments to municipalities to assist with social costs, it takes into account that CLTIP properties do not directly generate municipal revenues.

For a more detailed review of this decision, please refer to Section 4.14 of the Supplement to this Annual Report.

4.1.2 Prepping the Land for Development: The Destruction of Natural Heritage Masquerades as a "Normal Farm Practice"

Woodlands and wetlands are critically important building blocks for southern Ontario's biological diversity. These natural heritage features are home to hundreds of species, as well as provide our communities with invaluable environmental services such as clean water and air. Roughly three-quarters of southern Ontario's woodlands and wetlands have been destroyed since the beginning of the 19th century.

Ontario's planning system recognizes that woodlands and wetlands are important natural heritage features that merit protection. The Provincial Policy Statement, 2005 (PPS) establishes their protection as a provincial interest by not permitting development or site alteration to occur in woodlands and wetlands that are determined to be provincially significant. Additionally, municipalities are empowered to pass tree-cutting by-laws, and conservation authorities can regulate proposed development in and around wetlands.

Agricultural activities are protected through many public policy privileges granted by the Ontario Legislature. For example, municipal tree-cutting by-laws are not allowed to restrict a normal farm practice carried on as part of an agricultural operation, nor do the natural heritage protections of the PPS limit the ability of existing agricultural uses to continue. However, it is the responsibility of the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) to ensure that such privileges are not abused.

Despite this oversight, woodlands and wetlands are quietly being lost because of legal loopholes. For example, natural heritage features are being destroyed as farmlands are prepped for subdivisions and aggregate operations under the guise of "normal farm practice." Farmers have frequently been the diligent stewards of these natural heritage features for generations, only to have them lost after the family farm is sold to a third party. The extent to which this practice is occurring is impossible to quantify – any given case may unfold over years and there is limited monitoring of woodlands and wetlands – but the concern has been brought to the attention of the ECO.

The *Farming and Food Production Protection Act, 1998* defines a normal farm practice as a practice that is "conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances, or makes use of innovative technology in a manner consistent with proper advanced farm management practices."

By eliminating natural features *first* as part of agricultural operations, farmland becomes a blank slate with fewer restrictions that is easier to switch to another land use. It is done with the aim of anticipating and circumventing subsequent approvals processes, such as those under the *Planning Act* or the *Aggregate Resources Act*, which may have otherwise afforded some protections to these ecological features.

This practice of destroying natural heritage features can occur years before a farm is sold for development or after it is sold, but prior to the proposed re-zoning of the land and submission of a proposed site plan. As such, at face value, it may appear that a farmer or tenant farmer is simply expanding the size of their fields by cutting down trees, for example, which they are entitled to do as a "normal farm practice." In reality, the land is being deliberately prepped for development by denuding it of ecological features.

The few municipalities that have uncovered this practice have largely been unsuccessful in resolving this perceived abuse of the planning system. For example, municipalities are rightfully hesitant to apply for a hearing before the Normal Farm Practices Protection Board in an attempt to enforce a tree-cutting by-law or woodlot conservation by-law. The perception exists that a public ruling by the board supporting tree removal as a normal farm practice may have significant local repercussions that would encourage other landowners to destroy natural heritage features. In a limited number of cases, the municipality opts for mediation, instead of a hearing, in which a private agreement is reached to settle the matter and the details are not made public.

It is unreasonable to allow the destruction of natural heritage features to occur under the myth that prepping the land for development is a normal farm practice. The ECO encourages OMAFRA to consult the public on new guidelines that clarify the relationship between normal farm practices and the conservation of natural heritages features.

For ministry comments, please see Appendix C.

4.2 Rules for Source Protection Plans Now in Place

"Source protection" is the protection of drinking water from contamination and depletion at its source. This includes safeguarding the quality and quantity of both the surface water (lakes, rivers, streams and wetlands) and groundwater (water beneath the earth's surface) from which Ontarians obtain their drinking water.

In June 2010, O. Reg. 287/07, the general regulation made under the *Clean Water Act, 2006* (*CWA*), was amended to establish the requirements for preparing source protection plans – the defining component of Ontario's "drinking water safety net" – for many of the province's watersheds.

Source Protection Planning in Ontario

Clean Water Act, 2006

Nearly twelve years ago, the contaminated drinking water tragedy in Walkerton, Ontario killed seven people and made over 2,300 ill. It also changed the landscape of drinking water regulation in Ontario forever. Following the terrible events in Walkerton, the government embarked on a mission to overhaul Ontario's approach to drinking water safety. What followed was the creation of a new regime for drinking water protection in Ontario – a "drinking water safety net" with a "source-to-tap focus."

One of the first major initiatives under this new regime was the passage of the *Safe Drinking Water Act, 2002* (*SDWA*). The *SDWA* governs the treatment and distribution of drinking water in Ontario (the ECO reviewed the *SDWA* in our 2002/2003 Annual Report). However, one of the key recommendations of the Walkerton Inquiry Report was that "drinking water sources be protected by developing watershed-based source protection plans... for all watersheds in Ontario." The *CWA* was passed in October 2006 to meet this need.

The *CWA* establishes the legal framework for source protection planning in Ontario. It imposes on communities the responsibility for protecting their municipal water supplies, first, by identifying potential threats to the watersheds serving those systems and, then, by developing and implementing locally-based plans to reduce or eliminate those threats.

Generally, the *CWA* only applies to municipal drinking water systems within the jurisdictional boundaries of conservation authorities. Watersheds outside conservation authority boundaries, as well as private wells and other non-municipal water supplies, are generally not included. However, the Minister of the Environment may establish other source protection areas, and municipalities can include drinking water systems other than municipal residential drinking water systems. In addition, if specifically requested, existing or planned drinking water systems that serve or will serve a First Nations reserve may be included in the source protection planning process. To date, drinking water systems for two First Nations (Kettle and Stony Point First Nation and Six Nations of the Grand River) have been incorporated into the source protection planning process.

The ECO reviewed the *CWA* in our 2006/2007 Annual Report.

The Source Protection Planning Process

The *CWA* provides for the creation of local watershed-based source protection areas (SP areas), generally corresponding to conservation authority boundaries; some of these SP areas are grouped into source protection regions (SP regions).

Each SP area is assigned a source protection authority (SP authority) – usually the local conservation authority – which is tasked with source protection planning for the SP area. The SP authority (or lead authority of an SP region) must establish a committee (SP committee) comprised of municipal, agricultural, commercial, environmental and other representatives to carry out source protection planning for each SP area.

Each SP committee must prepare three key documents for its SP area(s): the terms of reference, the assessment report, and the source protection plan. Once each document is prepared, it must be submitted first to the SP authority and then to the Ministry of the Environment (MOE) for final approval.

Terms of Reference (ToRs) guide the preparation of assessment reports and source protection plans. ToRs must include information about the SP area (e.g., municipalities affected, planned or existing drinking water systems, etc.), as well as a work plan setting out: major tasks required to complete the assessment report and source protection plan; the person or body responsible for completing each task; and the estimated date of completion.

Assessment reports are science-based technical documents that identify and characterize the watersheds in the SP area, create water budgets, and identify:

- the "vulnerable areas" within each watershed;
- the "drinking water threats" in each vulnerable area; and
- which drinking water threats constitute "significant drinking water threats."

Source protection plans establish the strategy for reducing or eliminating drinking water threats in SP areas. Source protection plans must include:

- "significant threat policies" to address activities that are or would be significant drinking water threats;
- policies for monitoring drinking water threats;
- if directed by the Minister of the Environment, policies to achieve targets for Great Lakes drinking water; and
- any other policies prescribed by regulation.

Under Part IV of the *CWA*, source protection plans may also designate:

- prohibited activities;
- regulated activities (i.e., activities only permitted in accordance with a risk management plan); and
- restricted land uses (i.e., preventing certain activities that are prohibited or regulated from being approved under the land use planning process without the necessary risk management measure safeguards in place).

These "Part IV tools" may only be applied to designated activities that are identified as significant drinking water threats, and only to activities and land uses in designated areas within wellhead protection areas and intake protection zones.

Source protection plans carry considerable legal weight. Official plans and zoning by-laws must be amended to conform to significant threat policies and designated Great Lakes policies. Decisions relating to SP areas made under the *Planning Act* or the *Condominium Act, 1998* must also conform, and "have regard to" other policies in the source protection plan. Further, the source protection plan prevails in most cases of conflict with another plan or policy.

Generally, municipalities are responsible for enforcing the Part IV powers of the *CWA*, and are required to appoint a risk management official and risk management inspectors to carry out that duty. Risk management officials are responsible for overseeing the implementation and enforcement of risk management plans required for regulated activities.

Preparing Source Protection Plans – Amendments to O. Reg. 287/07

MOE has approved ToRs for all 38 SP areas and, as of March 31, 2011, had approved assessment reports for four. Until recently, however, SP committees did not have the instructions they needed to prepare source protection plans. The amendments to O. Reg. 287/07, which came into force in July 2010, establish the specific requirements for the preparation and content of source protection plans.

New Policies

The amendments to O. Reg. 287/07 describe additional policy tools to deal with drinking water threats that may be included in source protection plans. These include policies that: establish stewardship programs, best management practices, and pilot programs; govern research; or specify certain actions to be taken. Other policies that are permitted include: incentive, education and outreach programs; collection of data related to climate conditions; updating spill prevention and spill contingency plans along highways, railway or shipping lanes to protect drinking water sources; and policies intended to protect "transport pathways" (i.e., conditions resulting from human activity that increase the vulnerability of a drinking water system's raw water supply).

Prescribed Instruments

Prescribed provincial instruments must conform to significant threat policies and Great Lakes policies in source protection plans, and have regard to other policies. Not only does this apply to new or amended instruments, but ministries that issued prescribed instruments before a source protection plan took effect must amend them to conform to those policies. A number of provincial instruments are now prescribed, such as: Certificates of Approval for waste disposal sites under the *Environmental Protection Act*; Permits to Take Water issued under the *Ontario Water Resources Act*; and nutrient management plans under the *Nutrient Management Act, 2002*.

Prohibitions, Regulated Activities and Restricted Land Uses

The amendments to O. Reg. 287/07 establish the drinking water threats for which Part IV tools may be used. In particular, the regulation provides that all drinking water threats, apart from waste and sewage, may be designated as prohibited or regulated activities (e.g., management of materials such as manure and sewage sludge, handling and storage of fuel, etc.). For an area that a source protection plan designates for restrictions on land use, any land uses described in a zoning by-law or official plan that applies to the designated area may be restricted.

Notice and Consultation

The amendments to O. Reg. 287/07 include new provisions governing notice and consultation requirements during source protection planning, as well as hearings regarding proposed source protection plans.

Objectives

The regulation includes a list of objectives that must be included in every source protection plan. The first objective, "to protect existing and future drinking water sources in the source protection area," is illustrative of these broad objectives. To ensure "that the objectives of the Plan remain within the confines of the [*CWA*]," SP committees are prohibited from including any other objectives in source protection plans.

Other Changes

Other matters addressed in the amendments to O. Reg. 287/07 include:

- the form of source protection plans;
- legal effect of source protection plan policies;
- training and qualifications of risk management officials and inspectors;
- requirements to prepare an explanatory document to accompany a source protection plan;
- the process for amending source protection plans;
- records retention; and
- reporting obligations.

Implications of the Decision

With these regulatory amendments, SP committees now have the necessary tools to move forward with preparing the critical final document in Ontario's three-part source protection planning process – the source protection plan itself. Once source protection plans are in effect, the risks to municipal drinking water posed by threats to source water quality and quantity in program areas should be significantly reduced.

Increased Certainty and Transparency

The detailed rules for source protection plan preparation and content should yield a certain level of predictability and consistency within and between source protection plans, while also providing flexibility to find local solutions to specific drinking water issues in an SP area. The limits on permitted plan objectives should ensure that source protection plans do not stray from their overarching purpose: to protect existing and future drinking water sources in SP areas. The requirement to provide an explanatory document, together with notice and consultation requirements, should lend transparency to the process, as well as keep everyone informed and involved in the planning process.

Effect on Municipalities, Conservation Authorities, Provincial Ministries and Others

Source protection plans will affect many planning and regulatory tools and existing or planned activities in SP areas, creating a lot of work for affected parties. In particular, municipalities will have to review and amend official plans, zoning by-laws and other documents to conform to source protection plan policies, and provincial ministries will be required to do the same for prescribed instruments. Municipalities will also need to prepare to take on enforcement responsibilities, including hiring and training risk management officials and inspectors. People engaged in designated activities in SP areas may need to commence risk management planning.

The work required for municipalities and others to give effect to source protection plans will command significant financial resources. In January 2011, the Ontario government reported that it has invested more than $175 million to protect drinking water sources since 2005. Considerable additional funding will be required moving forward.

Reliance on Provincial Instruments

By prescribing provincial instruments under the *CWA*, those instruments may be used to implement policies in source protection plans. Relying on those instruments (and the ministries responsible for issuing them) to implement source protection policies should be an effective and efficient way to manage local drinking water threats without regulatory duplication. How policies are actually given effect will depend on the level of discretion or direction provided in the source protection plan policy itself.

"Spin-off Benefits"

Although the *CWA* is only intended to protect water sources that feed municipal drinking water systems, policies in source protection plans that prevent or reduce the release of pollutants and pathogens in municipal drinking water sources – lakes, streams, rivers and underground aquifers – could also benefit those who obtain their drinking water from non-municipal supplies in those areas. Source protection measures, generally, should have a positive influence on water quality, soil quality and biodiversity in program areas.

Other Information

Updated Technical Rules for Preparing Assessment Reports

In addition to the general provisions in the *CWA*, directions for preparing assessment reports are found in O. Reg. 287/07 and in "Technical Rules" made by the MOE Director. The Technical Rules set out specific requirements and methodologies for preparing assessment reports, including technical directions for: preparing water budgets; characterizing watersheds; assessing groundwater vulnerability; and delineating wellhead protection areas and surface water intake protection zones.

In November 2009, following public consultation on the Environmental Registry (#010-7573), the Technical Rules were amended significantly to "provide more clarity with respect to the contents of the assessment report and to provide more flexibility to source protection committees to address local conditions." In March 2011, MOE proposed additional amendments to the Technical Rules (Registry #011-2168) regarding the preparation of water budgets and the use of climate data in assessment reports. Public consultation was ongoing at the close of the ECO's reporting year.

Ontario Drinking Water Stewardship Program

The *CWA* establishes the Ontario Drinking Water Stewardship Program (ODWSP) to provide financial assistance to landowners and businesses who take action to reduce threats to sources of municipal drinking water. In 2007, the Ontario government committed a total of $28 million to the program over four years. In the first three years of the program, aimed at early actions, education and outreach, and special projects, ODWSP provided $21 million in funding to approximately 2,100 local projects involving such activities as well decommissioning and upgrades, improvements to septic systems, runoff and erosion controls, and pollution prevention assessments for businesses.

An additional $7 million was allocated for the fourth year of the program, which is focused on "early response," providing funding for projects to address drinking water threats identified in assessment reports for particular SP areas.

ECO Comment

MOE has described these regulatory amendments as allowing for "the ultimate realization of Justice O'Connor's vision for source-to-tap drinking water protection." While this may be an overstatement – for instance, Justice O'Connor envisioned source protection plans for *all* watersheds in Ontario – having a robust and comprehensive set of rules for source protection planning is indeed critical to achieving the purposes of the *CWA*.

The ECO commends MOE for developing a source protection strategy that aims to reduce drinking water threats posed by past, present and future activities, and for enacting the legislation, regulations and technical guidance required to breathe life into that strategy. Ontario is leading the country in this regard. The recent improvements to drinking water regulation and protection in the province should not only give many Ontarians greater confidence that the water flowing from their taps is safe to drink, but also benefit the environment as a whole. It is discouraging, however, that more Ontarians will not benefit from these improvements. At present, the source protection regime leaves most of the northern part of Ontario, as well as the significant segment of the population that relies on private drinking wells, without protection. The ECO hopes that the benefits of source protection will be extended to other areas of the province in the near future.

The successes and ongoing challenges of Ontario's source protection strategy will not be fully apparent until source protection plans are approved and implemented in the coming years. However, MOE has done a good job creating a comprehensive and thoughtful policy toolkit for SP committees to tackle various drinking water threats in different but appropriate ways. Ontario Regulation 287/07 establishes reasonable conditions on the use of the *CWA* Part IV powers; however, effective training of risk management officials and inspectors will be crucial to implementation and enforcement. Clear guidance will also be necessary to assist municipalities, provincial ministries and others responsible for bringing various instruments, official plans and zoning by-laws into conformity with source protection plan policies. Further, MOE should periodically review the lists of prescribed drinking water threats and prescribed instruments to ensure the regulation stays current.

The ECO is pleased that source protection plans may include policies for collecting climate change data, which could provide critical input to future source protection in an SP area. Although the Great Lakes are an important source of drinking water for many Ontarians, setting Great Lakes targets and including Great Lakes policies in source protection plans unfortunately remains discretionary. The ECO encourages the Minister to prioritize the development of Great Lakes targets so that SP committees may include policies to achieve those targets in their source protection plans.

The ECO is also pleased that MOE has built early, multi-stage notice and consultation into the source protection planning process. It is disappointing, though, that the regulation does not take better advantage of the Environmental Registry to facilitate consultation. The ECO continues to urge MOE to classify source protection planning documents as instruments under the *Environmental Bill of Rights, 1993* (*EBR*), which would provide the public with greater opportunity to participate in source protection planning.

With 38 source protection plans being prepared in the coming months, there likely will be uncertainty and turmoil as SP committees, public bodies and stakeholders navigate the rules for the first time. The process will also continue to be costly for municipalities and others responsible for implementing and enforcing source protection plans. The ECO urges the Ontario government and MOE to ensure sufficient, stable, long-term funding is in place to support all aspects of the source protection program.

There is no question that source protection planning is complicated, inconvenient and expensive. However, this should not be allowed to eclipse the sheer importance of the program: of not only ensuring a safe drinking water supply but, just as important, of instilling public confidence in it. The suffering that happened in Walkerton in 2000 should be a constant reminder that the benefits to human health and the environment that come from protecting the province's aquatic resources are priceless.

Recommendation 5:

The ECO recommends that MOE develop Great Lakes targets and ensure that Great Lakes policies are included in the source protection planning process.

For a more detailed review of this decision, please refer to Section 4.4 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.3 Lake Simcoe Phosphorus Reduction Strategy: Is it Enough?

After the Great Lakes, Lake Simcoe is the largest lake in southern Ontario. Its watershed provides a home for numerous wildlife species, including 32 species at risk, as well as widespread agricultural operations, a thriving recreational community and 23 municipalities that represent an expanding urban presence in the region. However, all this development and agricultural activity has caused a steep decline in the water quality of Lake Simcoe and its watershed. This decline is primarily due to phosphorus loadings, which have more than doubled since pre-European settlement rates. In the 1800s, the phosphorus loadings entering the lake were approximately 32 tonnes per year (t/yr), which has been adopted as the baseline level. Currently, the loadings average approximately 72 t/yr.

Significant amounts of this nutrient enter the lake by atmospheric deposition or water run-off from anthropogenic sources, such as the use of fertilizers and detergents, human and animal waste, and industrial processes. The added phosphorus nurtures greater rates of plant and algal growth, which leads to the depletion of the dissolved oxygen concentration in the cold, deeper layer of the lake, which is required habitat for natural populations of cold-water fish, such as lake trout (*Salvelinus namaycush*).

In June 2010, the Ministry of the Environment (MOE) finalized the Lake Simcoe Phosphorus Reduction Strategy (the "Strategy"). Developed under the *Lake Simcoe Protection Act, 2008* and the Lake Simcoe Protection Plan (LSPP), the Strategy is a multi-partner, 35-year phased approach for identifying and reducing major sources of phosphorus entering Lake Simcoe and its watershed. The Strategy builds upon the scientific research, initiatives and planning conducted by the government and various partner groups over the past several decades. The Strategy shares the $20 million provincial investment for Lake Simcoe initiatives.

The Strategy sets out the goal of restoring the dissolved oxygen concentration in Lake Simcoe to 7 milligrams/litre, which is the concentration needed to support self-sustaining cold-water fish species in the lake. This translates into a reduction of total phosphorus loadings from all major sources from 72 t/yr to 44 t/yr by 2045. Without any action to reduce phosphorus in the watershed, phosphorus loadings are predicted to increase to 94 t/yr by 2045.

The Strategy sets out a reduction target for major sources of phosphorus, as set out in Table 4.3.1.

Table 4.3.1
Phosphorus Reduction Strategy Summary

Source of Phosphorus	% of Total Loadings	Current Loadings (tonnes/year)	Reduction Target set by Strategy
Urban runoff and stormwater	31%	23	Moving to no net increase in phosphorus loading from new development.
Atmospheric deposition	27%	19	A reduction of 7 tonnes/year (t/yr) by 2045 (3 t/yr in atmospheric deposition in addition to voluntary agricultural stewardship reductions).
Rural and agricultural runoff	25%	17	No target set, but reductions are expected from stewardship activities.
Sewage treatment plants (STPs)	7%	5	An aggregate baseline load of 7.2 t/yr will be applied to all STPs by 2015 or at their next expansion. Post-2015, the target is an aggregate loading of 3.2 t/yr by 2045.
Private septic systems within 100 m of Lake Simcoe	6%	4	No target set.
Holland Marsh and smaller polders	4%	3	Reduce total phosphorus load from polders by an estimated 1 t/yr.

ECO Comment

The ECO commends the Ontario government for creating a watershed-scale Phosphorus Reduction Strategy and acknowledges that this Strategy sets the foundation for the work to come. However, the ECO has some concerns with the Strategy's proposed approach.

Of greatest concern is the apparent contradiction between the province's efforts to reduce phosphorus and its Growth Plan for the Greater Golden Horseshoe, which will increase development, and consequently phosphorus, in the Lake Simcoe watershed. Although the Strategy anticipates that urban growth will contribute to increasing phosphorus loadings, it fails to undertake an aggressive approach to ensure these loadings will not overwhelm the lake. Stewardship activities and technology alone will not reduce additional phosphorus loadings from projected future development.

The Strategy lacks sufficient detail and accountability to ensure that phosphorus reduction efforts in the Lake Simcoe watershed will be successful. As seen with other provincial watershed-based initiatives, such as the remediation of Areas of Concern around the Great Lakes (see Part 2.1 of this Annual Report), these projects are expensive, take decades to achieve desired results, involve multiple partners, and require extensive monitoring, public participation and co-ordinated information sharing. However, these key elements are not well defined in this Strategy. The province should not only build upon past phosphorus reduction results but also apply the lessons learned from other remediation efforts.

Furthermore, the Strategy does not outline detailed actions, timelines and, in some cases, targets for the largest sources of phosphorus: urban and agricultural run-off and atmospheric deposition. Although the LSPP required that sub-watershed targets be incorporated into the Strategy, these and other source targets were not included. MOE could have used decades' worth of past phosphorus reduction activities to assign short-term and long-term reduction targets. Targets and deadlines foster greater accountability for the many Strategy partners and will help the province, stakeholders and the public assess the effectiveness of the Strategy at its scheduled five-year review.

Although the ECO supports stewardship activities, the ECO is concerned by the Strategy's heavy reliance on voluntary measures for reducing phosphorus loadings from the largest sources. Moreover, the Strategy relies on pre-existing environmental and planning legislation and regulations for compliance, even though they have not been effective in protecting Lake Simcoe. The ministry should couple stewardship programs with effective tools, such as regulations, enforcement activities and financial incentives, to ensure that concrete actions are taken to reduce phosphorus.

Similarly, the Strategy relies on the results of future research activities and technological innovation as key mechanisms to reduce large sources of phosphorus. However, the ECO notes that in some cases, technological advancements may not materialize or may be too costly to implement. Furthermore, the ECO believes that MOE already has access to a strong knowledge base that would allow effective, proactive initiatives to be implemented now.

The province should build strong, proactive phosphorus reductions targets for all the major sources into its Strategy for Lake Simcoe and then use all the enforcement and incentive powers at its disposal to ensure those targets are realized. If pursued diligently and supported with adequate financial and technical resources, this kind of watershed management approach could be adopted province-wide to prevent the deterioration of water quality in other stressed watersheds.

For a more detailed review of this decision, please refer to Section 4.5 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.4 Lakeshore Capacity Assessment: Balancing Development and Water Quality in Cottage Country

Lakes in cottage country are vulnerable to deterioration from development pressures. In July 2010, the Ministry of the Environment (MOE) released its Lakeshore Capacity Assessment Handbook (the "Handbook"), which aims to provide a practical planning tool for municipalities to control the amount of phosphorus entering inland lakes on Ontario's Precambrian Shield as a result of shoreline development. The Handbook is the product of a decades-long collaborative research and policy development program led by the ministry in partnership with the Ministry of Natural Resources (MNR) and the Ministry of Municipal Affairs and Housing (MMAH).

The Precambrian Shield is Ontario's largest ecozone, comprising about 60 per cent of the province's land area and over 250,000 inland lakes. Many lakes on the Precambrian Shield are characterized as oligotrophic (i.e., low in primary production due to low nutrient levels). As phosphorus is the nutrient most often limiting primary productivity, these lakes are sensitive to its introduction. Increases in total phosphorus concentrations are associated with higher levels of algae and plant growth, which can lead to decreases in oxygen concentrations (the process of eutrophication) in a lake's deep waters. These low oxygen conditions are harmful to cold-water fish, such as lake trout. In most Precambrian Shield lakes, septic systems of residents, cottages and other shoreline developments are the primary human sources of phosphorus.

The Handbook describes a mathematical model to determine a maximum allowable load of phosphorus from human sources to inland lakes on the Precambrian Shield. The model can also be used to predict the level of additional development that can be sustained around a particular water body without adverse effects due to phosphorus. Municipalities and planning authorities can use this model and the information it provides to determine how many lots should be permitted along the shoreline of a lake. If lakes are already above capacity, MOE suggests that municipalities limit planning approvals for new developments.

Although municipalities are not required by law to carry out lakeshore capacity assessment, an assessment is "strongly recommended" by the Ontario government as a means of being consistent with the *Planning Act*, the Provincial Policy Statement, 2005 (PPS), the *Ontario Water Resources Act* and the federal *Fisheries Act*. MOE states that implementing a lakeshore capacity assessment will require the co-operation of the various ministries and agencies involved, but that municipalities and planning authorities are ultimately responsible for carrying out modelling and setting capacity limits.

Implications of the Decision

More Stringent Phosphorus Objectives

In the Handbook, MOE has redefined the maximum allowable levels of phosphorus in Precambrian Shield lakes to a 50 per cent increase in phosphorus levels for each lake, calculated from a modelled baseline of "water quality in the absence of human presence." The new model considers cumulative effects of downstream phosphorus transport in the context of the watershed. Under the new approach, each water body has its own phosphorus objective, so sensitive lakes will be treated more appropriately than in the "one size fits all" type approach previously taken.

Limited Support for Implementation by Municipalities

The Handbook makes it clear that the onus is on each planning authority to implement lakeshore capacity planning, and MOE will provide technical or educational support when asked. The Handbook does not outline any new ministerial responsibilities or financial assistance from ministries. The Handbook notes that some municipalities may not have experts on staff, but that resource managers, planners and environmental engineers could be trained to use the Lakeshore Capacity Model "in less than a week."

Lack of Incentive for Best Management Practices

The lakeshore capacity model does not take into account any best management practices that encourage retention of phosphorus before reaching the lake. Several lot-level practices, such as the use of vegetated buffer strips as nutrient sinks, are understood to reduce phosphorus entering lakes. MOE did not include these voluntary practices in the general model, calling for further research as few long-term studies have been published providing quantitative evidence of their benefits. Municipalities would need to undertake additional site-specific research before including best management practices in the lakeshore capacity model. Since the general model does not factor in any benefits of best management practices, there is little incentive for municipalities to encourage these practices.

Lakeshore Capacity Model's Focus on a Single Indicator

Lakeshore capacity assessment as described in the Handbook addresses only one pollutant – phosphorus. It does not account for any other factors that contribute to a lake's capacity: pollutants other than phosphorus; specific sources of pollution; or factors outside of water quality. By contrast, the original lakeshore capacity assessment approach from the 1980s examined a range of indicators to predict the environmental change resulting from development, including: land use; fisheries exploitation; wildlife habitat; microbiology; and water quality.

ECO Comment

The ECO is pleased that MOE released this Handbook, which was several decades in the making. The Handbook clearly explains the lakeshore capacity model, as well as when and where municipalities or planning authorities should apply it. Further, the ECO is pleased that the model provides a quantitative, more site-sensitive tool for watershed-level planning. The ECO commends MOE for developing new, more stringent limits for phosphorus concentrations for inland lakes on the Precambrian Shield, and encourages MOE to consider updating the water quality objective for total phosphorus across the province.

However, the ECO has observed a substantial retreat by the government from the previous comprehensive method of shoreline capacity planning. The ECO believes that the current approach, focused solely on a single nutrient, takes a narrow approach to the concept of "capacity." Despite the importance of phosphorus as a key indicator of lake water quality, it should not be the only factor in determining the level of development allowable on a lake. Further, it appears that although provincial guidance is available, the government has downloaded key responsibilities for lakeshore capacity assessment to municipalities with no new funding and limited technical support.

A mechanism to monitor the adoption and effectiveness of the lakeshore capacity assessment appears to be lacking. Without a legal requirement, funding, or assurance of ministry support at the Ontario Municipal Board, many municipalities may choose to go slow or ignore this new guidance. The ECO believes that ministries have a clear responsibility to support municipalities in their adoption of lakeshore capacity assessment; the ECO urges MOE, MMAH and MNR to establish a working group and specify a timeline for reviewing the Handbook and its effectiveness going forward. For example, ministries should commit to report to the public on municipalities that have adopted this form of lakeshore capacity assessment within three to five years.

The ECO questions why, after over 25 years of research, MOE still does not have the quantitative information necessary to include best management practices in lakeshore capacity assessment. The ECO suggests that MOE, MNR and MMAH commit to completing the necessary research to incorporate best management practices in updated versions of the model, thereby encouraging a suite of actions to reduce phosphorus loading to Ontario's inland lakes.

Recommendation 6:

The ECO recommends that MOE update the Provincial Water Quality Objective for Total Phosphorus to reflect individual lake sensitivity and watershed-level cumulative effects.

For a more detailed review of this decision, please refer to Section 4.2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.5 Stormwater: Our Neglected Headwaters

Rain or snow melt – that does not infiltrate the soil, get absorbed by plants or evaporate – flows across the land and into the nearest river or lake. This is called stormwater runoff. As stormwater moves through a watershed, it causes water levels and rates of stream flow to increase, which can cause flooding, erosion, decreased water quality, and alterations to stream channels and aquatic habitat.

In urban areas, where pavements, roofs and other impermeable surfaces replace much of the natural ground cover, this process is intensified mainly because less water can infiltrate the ground. The hydrologic characteristics also differ between natural and urban areas (Figure 4.5.1). Urban rivers can have too little flow in dry weather and too much flow during storm events. The natural cover in rural areas slows runoff and retains water, releasing it slowly and moderating the highs and lows of stream flow. In addition, the stormwater in urban areas can contain high levels of suspended solids, nutrients, bacteria, heavy metals, oil and grease, pesticides, sodium and chloride from road salt, lawn fertilizers and residues from tires. Urban stormwater is a major source of pollution in the Great Lakes and Lake Simcoe.

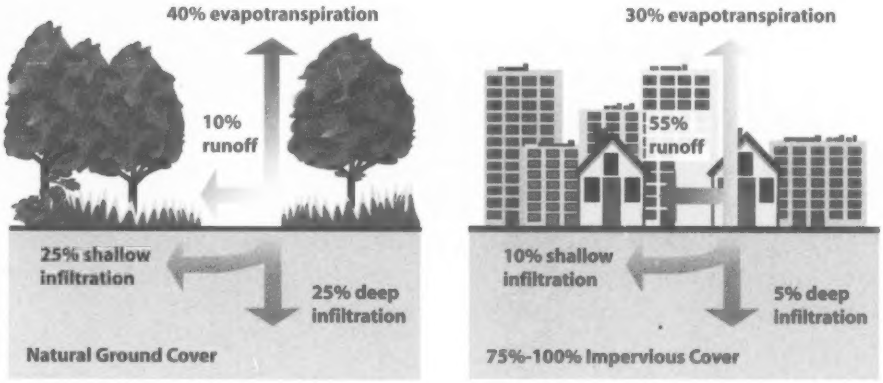


Figure 4.5.1. Natural landscapes like forests, wetlands and grasslands allow rainwater and snowmelt to infiltrate into the ground, reducing the amount of runoff. In urban areas where there are more impervious surfaces like roads, parking lots and rooftops, less rainwater and snowmelt filters into the ground and runoff is increased. Source: U.S. Environmenal Protection Agency.

Stormwater Management

Generally speaking, one of the primary objectives of stormwater management is to slow the movement of water in order to reduce its negative impacts on watercourses, shorelines, built structures, aquatic life and habitat. The goal is to mitigate the effects of urban development on the natural hydrological cycle. Historically, stormwater management practices primarily focused on controlling peak flows to reduce flooding and erosion (for example through piped drainage systems and combined sewers). However in the 1980s, the practice shifted in response to fish habitat concerns to address water quality issues (for example, through the use of ponds and other end-of-pipe controls to treat stormwater). Prudent management now incorporates a sequential series of stormwater controls or facilities (i.e., lot-level, conveyance, and end-of-pipe) to maintain natural water volumes and flow rates (Table 4.5.1). The series of controls or facilities is called a stormwater management system or treatment train. Rather than relying solely on end-of-pipe controls, like stormwater ponds, a treatment train approach stresses pollution prevention and can incorporate low-impact development practices at the site level.

Table 4.5.1
Controls and Facilities in a Stormwater Treatment Train

Lot-level Options	Conveyance Options	End-of-Pipe Options
Rooftop storage (green roof)	Reduced lot grading	Wet ponds
Parking lot storage	Infiltration trenches	Constructed Wetlands
Subsurface storage	Pervious pipe systems	Dry ponds
Rear yard storage	Grassed swales	Filters
Rainwater harvesting	Vegetated filter strips	Infiltration basins
	Permeable pavement	Oil/grit separators

The management of stormwater is the responsibility of municipalities and property owners (including developers) in Ontario. The governance for stormwater management falls under the jurisdiction of several different government bodies such as Fisheries and Oceans Canada, the Ministry of the Environment (MOE), the Ministry of Natural Resources (MNR), the Ministry of Municipal Affairs and Housing (MMAH), municipalities, and conservation authorities. For example, municipalities usually require developers to incorporate stormwater management facilities in their subdivision plans in order to obtain *Planning Act* approvals. In most cases, the developer also must obtain a Certificate of Approval (C of A) under the *Ontario Water Resources Act*, authorization under the federal *Fisheries Act*, a permit under the *Conservation Authorities Act* and, occasionally, a permit under the *Endangered Species Act, 2007*.

Maintain and Monitor

A key function of stormwater facilities is to trap sediment and toxic contaminants before they reach rivers and lakes. It is vital that accumulated sediments be removed periodically to ensure that facilities function properly and to maintain the original pond depth – otherwise the contaminants will simply be washed downstream. It is also important to regularly clean out oil/grit separators (underground structures used to remove sediment) for them to function properly (Figure 4.5.2). If accumulated sediment is not removed, stormwater ponds have an estimated operational lifespan of 5 to 15 years; many ponds across Ontario have exceeded their life expectancy or will begin to reach expected sediment capacity within the next few years.

Figure 4.5.2. Stormwater can contain many contaminants, such as tire debris, petroleum, cooking grease, dust and metals. These jars contain stormwater products collected by an oil/grit separator located in a commercial area north of Toronto. If oil/grit separators are not cleaned out, these products would enter lakes and rivers.

During construction, the maintenance of the stormwater facility (e.g., ponds and oil/grit separators) is the responsibility of the developer. Once constructed, it becomes the responsibility of the property owner. In most cases, the facility becomes part of municipal infrastructure, and the municipality assumes the duty to operate, maintain and monitor.

MOE's Stormwater Management Planning and Design Manual (2003) provides some guidance on the inspection, monitoring and maintenance of stormwater management facilities. For example, it recommends that owners or managers prepare an annual maintenance report and use inspections to determine required maintenance activities. MOE can also incorporate monitoring, inspection and maintenance as conditions in Cs of A. However, MOE has not developed monitoring standards for stormwater management facility approvals – conditions are determined on a site-by-site basis.

Some municipalities have established regular stormwater monitoring programs to ensure that facilities are functioning properly and to inform their maintenance schedule. The Town of Richmond Hill's program, for example, has been in place for over 10 years. Through its monitoring program, the town discovered that there were nearly 30 projects that needed major work, including the rehabilitation of the Pioneer Park Stormwater Management Facility. In summer 2010, Richmond Hill completed the rehabilitation of Pioneer Park – a $6.3 million project intended to protect the community from flooding and improve water quality and fish habitat (Figures 4.5.3 and 4.5.4). It is the first major stormwater management rehabilitation project in Canada.

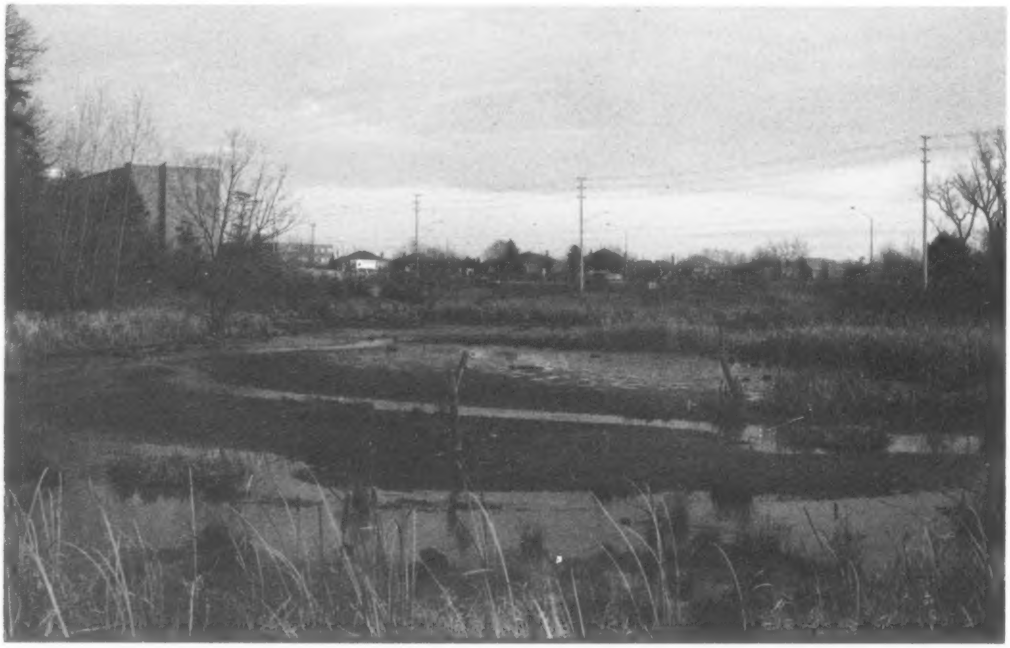


Figure 4.5.3. Pioneer Park stormwater management pond in January 2007, prior to rehabilitation project. Source: Town of Richmond Hill.

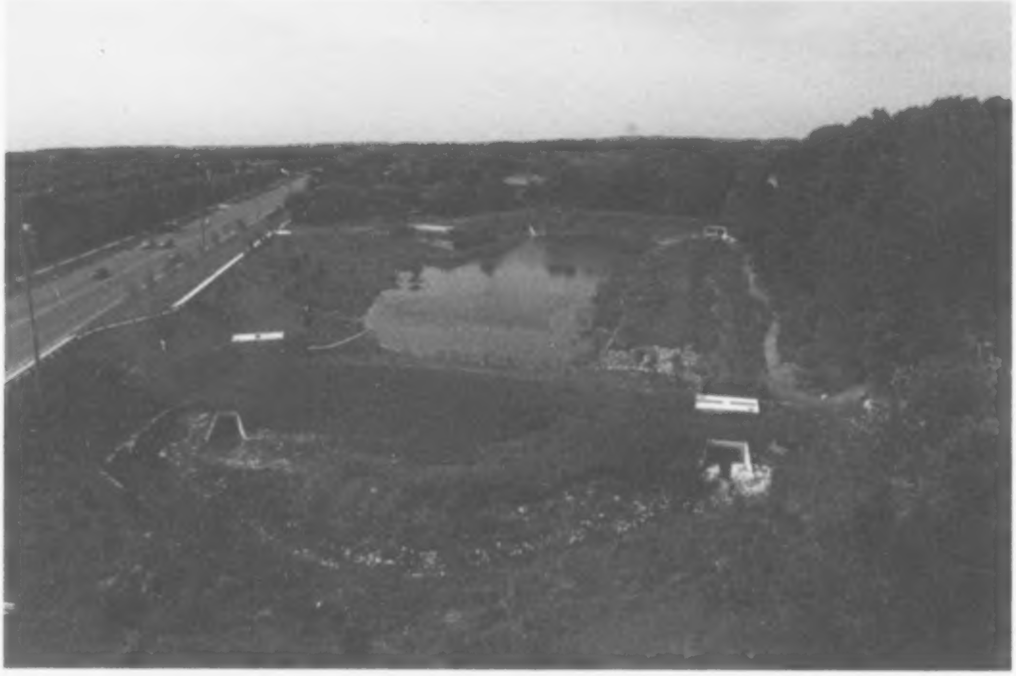


Figure 4.5.4. Pioneer Park stormwater management pond in September 2010, after rehabilitation work was completed. Source: Town of Richmond Hill.

Unfortunately, many municipalities have no stormwater monitoring programs in place and are unaware of the actual conditions of the facilities. It is very costly to monitor and maintain facilities, and to dispose of sediment. For example, if the removed sediment is contaminated it must be transported and disposed of at a certified landfill site or a hazardous waste facility. Many municipalities may not have sufficient funds set aside. During 2009/2010, MOE inspected almost 140 stormwater discharges and found that most instances of non-compliance related to insufficient monitoring.

MOE recently advised the ECO that it is working on a number of initiatives to enhance stormwater management in Ontario, including those identified in the Lake Simcoe Protection Plan and the Phosphorus Reduction Strategy, as well as a framework for sustainable stormwater management as part of rollout of the *Water Opportunities Act, 2010* (for additional information on the Act, refer to Part 5.4 of this Annual Report). As of May 2011, MOE has not moved forward on any of these initiatives.

In 2010, MOE completed a three-year review of municipal stormwater management and climate change policy in response to an *EBR* application (for more information, refer to our 2009/2010 Annual Report).

ECO Comment

Stormwater management facilities will become increasingly important as our landscape becomes more urbanized and the effects of climate change (such as more extreme weather events) become more common. It is vital to maintain stormwater management facilities or they cease to function properly. Most municipalities, which own and operate the majority of facilities in Ontario, are not adequately inspecting, monitoring or maintaining their stormwater infrastructure. It is imperative that stormwater management facilities are not built and then forgotten. The ECO urges MOE to ensure that all stormwater management facilities, such as ponds and oil/grit separators, are sufficiently monitored and maintained. To this end, provincial guidelines could be strengthened, more stringent conditions could be added to approvals, and facilities could be better designed for maintenance.

Water management tends to be compartmentalized into distinct disciplines and separate bureaucratic entities – such as stormwater, sewage and drinking water management – rather than viewed holistically in the context of the watershed. Stormwater management facilities function much like headwater drainage features or first order streams – as originating points of river or stream flows – although these facilities are often perceived as grey infrastructure because they are constructed. While management practices have progressed in the last 20 years to include a treatment train approach, including low-impact (lot-level) development, further evolution of our thinking is needed. Many conservation authorities and municipalities are beginning to embrace the concept of integrated watershed management, which considers all components that influence hydrology. Some organizations are also asking the government to fully recognize green infrastructure in provincial policies (for more information, refer to Part 3.6 of this Annual Report). The ECO believes that water policy in Ontario should clearly recognize that stormwater management facilities and systems, while man-made, are a form of green infrastructure and part of a watershed's hydrological function.

Recommendation 7:

The ECO recommends that MOE require stormwater management facility owners or operators to monitor and maintain all stormwater management infrastructure in Ontario.

For ministry comments, please see Appendix C.

4.6 Before the Flood: Conservation Authorities' Vital Role in Land Use Planning

Watersheds in southern Ontario have long benefitted from the stewardship of conservation authorities. There are 36 such locally organized bodies, established under the *Conservation Authorities Act* and mandated to manage water resources on a watershed basis. In 2010, the Ministry of Natural Resources (MNR) finalized its Policies and Procedures for Conservation Authority Plan Review and Permitting Activities ("Conservation Authority Policy") to clarify and govern how conservation authorities participate in various aspects of land use planning. The policy focuses on the permits that conservation authorities issue, as well as their role in reviewing municipal plans (e.g., official plan amendments) and development proposals.

Background

Conservation authorities are involved in many aspects of land use planning in Ontario. For example, some conservation authorities provide technical and policy advice to municipalities on water quality, environmental impacts, watershed science, hydrogeology and stormwater management. Conservation authorities are also involved as watershed management agencies under the *Conservation Authorities Act*, as public bodies under the *Planning Act*, as source protection authorities under the *Clean Water Act, 2006* and as landowners. Land developers often view conservation authorities as obstacles in the planning approval and permitting process, slowing down or stalling the pace of development. There is often confusion about the areas of land use planning in which conservation authorities should be involved.

Each conservation authority in Ontario is empowered by its own regulation under section 28 of the *Conservation Authorities Act* that allows it to issue permits to regulate development and activities in or adjacent to certain areas. These areas include river or stream valleys, the shorelines of the Great Lakes and large inland lakes, watercourses, wetlands and hazardous lands (i.e., lands that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock). Typical activities and/or infrastructure that may require a permit include the construction or reconstruction of buildings, dredging of water bodies, temporary or permanent placement of fill, municipal drains, and stormwater management facilities.

Permission from the conservation authority is required to confirm that the proposed development or activity does not affect the control of flooding, erosion, dynamic beaches, pollution or the conservation of land. Conservation authorities also regulate the straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, or for changing or interfering in any way with a wetland.

In the past, both conservation authorities and MNR independently reviewed and provided input to municipalities and the Ministry of Municipal Affairs and Housing (MMAH) on natural hazard lands. In 1995, to reduce duplication and overlap, MNR delegated sole responsibility for commenting on development proposals in natural hazard areas to the conservation authorities. Under the delegation agreement:

» MNR is responsible for developing flood, erosion and hazard land management policies, programs and standards;

» MMAH co-ordinates provincial input, review and approval of municipal policy documents, and development proposals and appeals to the Ontario Municipal Board (OMB); and

» Conservation authorities review municipal land use planning policy documents and applications made under the *Planning Act* (e.g., development applications) to ensure consistency with the natural hazard policies of the Provincial Policy Statement, 2005.

Land Use Plan Review and Permitting Policy

The Conservation Authority Policy is a new chapter in MNR's Conservation Authorities Policy and Procedures Manual. Overall, the Conservation Authority Policy reflects and supports the current roles, functions and responsibilities of conservation authorities in land use permitting and plan review activities. The majority of the direction provided clarifies how conservation authorities are involved in these processes. However, the document also contains a few new administrative procedures that may initially increase the workload of conservation authority staff (e.g., pre-consultation, confirmation of complete application requirements for permits, and timelines to complete application reviews and appeal processes).

While not required, conservation authorities are encouraged by MNR to: develop conservation authority board-approved policies, procedures and guidelines for their activities in land use planning and for their section 28 permitting; undertake public consultation on these policies; and make them publicly accessible. While some conservation authorities have previously developed such policies, many have not. Furthermore, they may need to amend existing policies, procedures and guidelines to bring them in line with MNR's Conservation Authority Policy.

The Conservation Authority Policy also encourages conservation authorities to develop watershed and sub-watershed plans. The policy states that municipalities can use the information in these plans during the creation and update of official plans and by-laws and during their review of development applications. The policy further states that conservation authorities should ask municipalities to identify natural hazard lands in their official plans and by-laws. This would enable municipalities to direct development away from natural hazard lands.

Where a conservation authority provides technical services to a municipality, the Conservation Authority Policy suggests that the parties establish a formal technical service agreement. This agreement should establish the role a conservation authority will play in various situations, such as during pre-consultation and at OMB hearings.

ECO Comment

Conservation authorities play a significant and valuable land use planning role in Ontario. They ensure that houses are not built on floodplains and that wetlands are not filled in for development. They also act as important local environmental advocates, as watershed management agencies, as source protection authorities and, in some cases, as municipal technical advisors on local natural heritage features and systems. While the Conservation Authority Policy formally confirms what some conservation authorities have been doing for years, it also adds a few new requirements. The ECO is pleased with MNR's Conservation Authority Policy as it clearly defines the numerous roles and responsibilities of conservation authorities in land use planning and should increase efficiency and consistency among them.

These are challenging times for land use planning in Ontario. Municipalities must adapt to the impacts of climate change (e.g., more frequent and powerful storm events may increase flooding events) and balance environmental protection with growth and development pressures. Among other negative effects, development can significantly change the hydrology of a watershed, leading to flooding, erosion, and water quality and aquatic habitat concerns. During the last 10 to 15 years, stormwater management facilities, which may require a conservation authority permit, have become popular in Ontario to mitigate these impacts from development. Therefore, it will be increasingly important for conservation authorities to be active participants in land use plan review and permitting activities, particularly given their original role in floodplain management.

Generally speaking, flooding is the most significant natural hazard in Ontario. Floodplain maps are important in flood prevention, and conservation authorities and municipalities rely on these maps to direct development away from flood prone areas. Ontario's Expert Panel on Climate Change Adaptation and Conservation Ontario (the association of conservation authorities) have both stated that floodplain maps in Ontario are out of date and should be reviewed and updated. In addition, the ECO has previously expressed concern that inadequate funding for flood control and prevention measures has created a situation where, due to climate change, Ontario is now vulnerable to significant flooding events. The ECO encourages MNR to continue to support conservation authorities in their plan review and permitting activities and to ensure that conservation authorities are adequately funded so that future development is directed away from natural hazard areas.

Recommendation 8:

The ECO recommends that MNR, in association with Conservation Ontario, review and update floodplain maps in Ontario in order to adapt them to impacts from climate change.

For a more detailed review of this decision, please refer to Section 4.12 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

4.7 When Two Worlds Collide: Cottages in Rondeau Provincial Park

Rondeau Provincial Park is a relatively small park (just over 3,250 hectares) near Chatham, and is located on a crescent shaped sandspit that juts into Lake Erie. The park's delicate beach dunes, pine-oak and beech-maple forests, and marshes support an array of mammals, plants and birds, including the endangered prothonotary warbler (*Protonotaria citrea*). The park also contains approximately 280 privately owned cottages, built between the 1890s and 1950s. Rondeau and Algonquin are the only provincial parks in Ontario that have private cottages on leased Crown land within their boundaries. The leases are set to expire in 2017.

In 2010, Ontarians filed an application under the *Environmental Bill of Rights, 1993* (*EBR*) requesting that the Ministry of Natural Resources (MNR) investigate certain activities conducted by cottage leaseholders that may be degrading the habitat of native species in the park. The applicants claim that some leaseholders within the park are not complying with their lease agreements because they constructed off-lease structures, such as pathways, beach houses, volleyball nets, tennis courts, and docks without a permit.

Provincial Parks and Conservation Reserves Act, 2006

The *Provincial Parks and Conservation Reserves Act, 2006* (*PPCRA*) governs provincial parks and conservation reserves in Ontario, which are administered by MNR. Under the Act, MNR's first priority when planning and managing provincial parks and conservation reserves shall be the maintenance of ecological integrity. According to the *PPCRA*, ecological integrity refers to a condition in which "components of ecosystems and the composition and abundance of native species and biological communities are characteristic of their natural regions and rates of change and ecosystem processes are unimpeded." This includes healthy and viable populations of native species, species at risk and the habitat on which they depend, and levels of air and water quality consistent with protection of biodiversity and recreational enjoyment. For additional information on the *PPCRA*, please see the ECO's 2006/2007 Annual Report.

A work permit is required to undertake certain activities in provincial parks and conservation reserves, such as: constructing, expanding or placing buildings or structures; constructing trails or roads; and clearing land.

Ministry Response

In November 2010, MNR determined that an investigation under the *EBR* was unnecessary because it was already addressing the applicants' concerns through ongoing investigations, compliance and enforcement actions. MNR stated that since 2007, it has taken a "stepwise approach to achieve leaseholder compliance with the [*PPCRA*]." This approach includes letters, meetings and written warnings to individual leaseholders. MNR also stated that it charged one cottage leaseholder with cutting grass off the leased lot and the matter was before the courts.

For the full text of the ministry decision, see our website at www.eco.on.ca.

ECO Comment

MNR's decision to deny this *EBR* application is technically reasonable given the ministry's ongoing investigation into this matter.

However, the ECO also believes that it was reasonable for the applicants to submit an application for investigation on this matter. The applicants documented that for over three years, MNR acknowledged problems in the park with off-lease structures and that there were violations of lease conditions. It is unclear at what point MNR will stop writing contravention warning letters and start laying additional charges. Without clear action, MNR is sending the wrong signal to leaseholders and the public; the ministry must show through its actions that it takes its enforcement responsibilities seriously.

The ECO stresses that provincial parks are dedicated to the public with the clear purpose of maintaining the ecological integrity of these protected areas. Both MNR and the cottage leaseholders have a legal obligation to ensure that biodiversity is safeguarded and left unimpaired for future generations. It is long-standing MNR policy that the leases in Rondeau and Algonquin provincial parks will expire in December 2017 based on the recognition that such land uses are inappropriate in protected areas. Until that time, MNR and cottage leaseholders must be diligent to safeguard these ecologically significant sites on behalf of all Ontarians.

For a more detailed review of this application, please refer to Section 6.2.3 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

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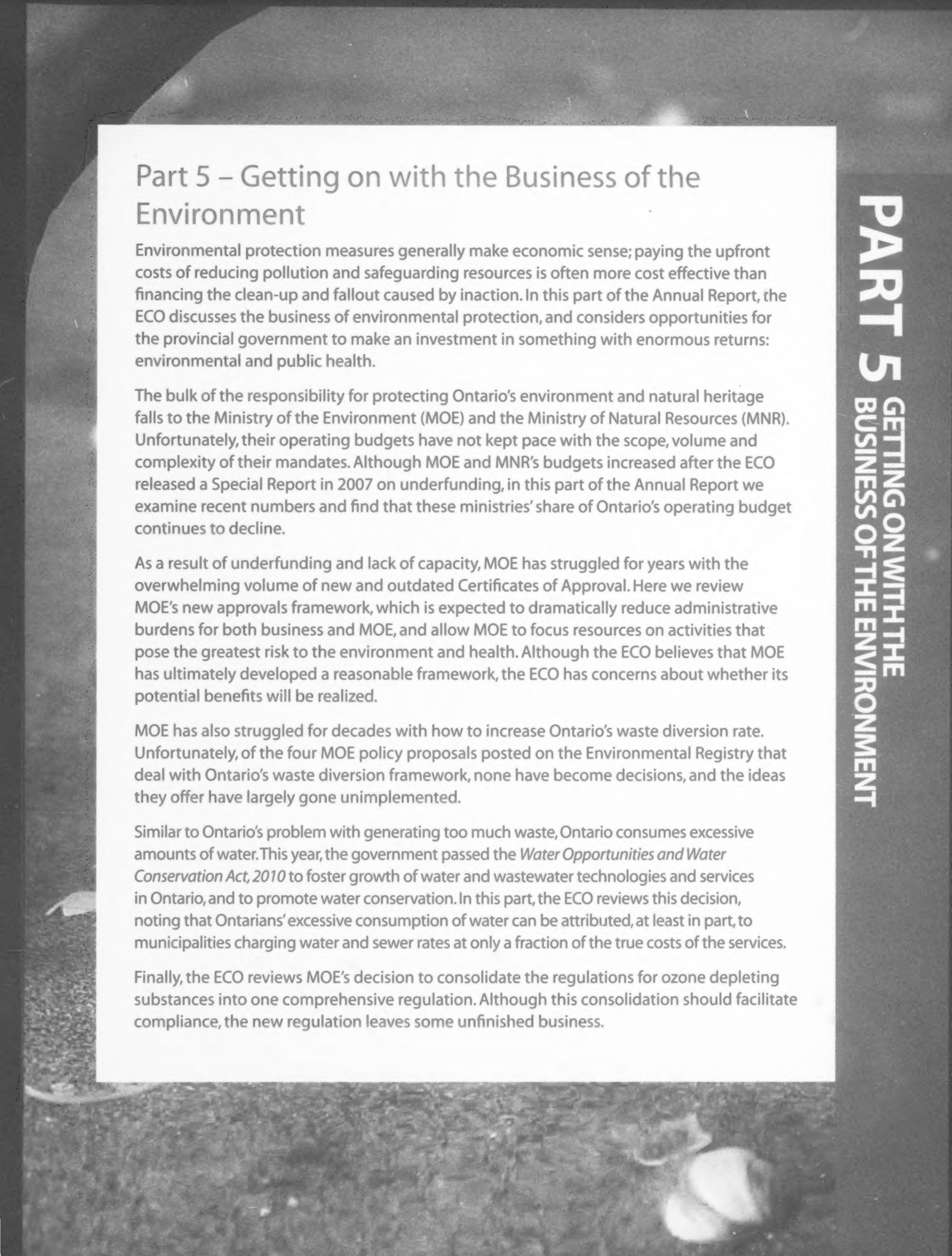


PART 5 GETTING ON WITH THE BUSINESS OF THE ENVIRONMENT

Part 5 – Getting on with the Business of the Environment

Environmental protection measures generally make economic sense; paying the upfront costs of reducing pollution and safeguarding resources is often more cost effective than financing the clean-up and fallout caused by inaction. In this part of the Annual Report, the ECO discusses the business of environmental protection, and considers opportunities for the provincial government to make an investment in something with enormous returns: environmental and public health.

The bulk of the responsibility for protecting Ontario's environment and natural heritage falls to the Ministry of the Environment (MOE) and the Ministry of Natural Resources (MNR). Unfortunately, their operating budgets have not kept pace with the scope, volume and complexity of their mandates. Although MOE and MNR's budgets increased after the ECO released a Special Report in 2007 on underfunding, in this part of the Annual Report we examine recent numbers and find that these ministries' share of Ontario's operating budget continues to decline.

As a result of underfunding and lack of capacity, MOE has struggled for years with the overwhelming volume of new and outdated Certificates of Approval. Here we review MOE's new approvals framework, which is expected to dramatically reduce administrative burdens for both business and MOE, and allow MOE to focus resources on activities that pose the greatest risk to the environment and health. Although the ECO believes that MOE has ultimately developed a reasonable framework, the ECO has concerns about whether its potential benefits will be realized.

MOE has also struggled for decades with how to increase Ontario's waste diversion rate. Unfortunately, of the four MOE policy proposals posted on the Environmental Registry that deal with Ontario's waste diversion framework, none have become decisions, and the ideas they offer have largely gone unimplemented.

Similar to Ontario's problem with generating too much waste, Ontario consumes excessive amounts of water. This year, the government passed the *Water Opportunities and Water Conservation Act, 2010* to foster growth of water and wastewater technologies and services in Ontario, and to promote water conservation. In this part, the ECO reviews this decision, noting that Ontarians' excessive consumption of water can be attributed, at least in part, to municipalities charging water and sewer rates at only a fraction of the true costs of the services.

Finally, the ECO reviews MOE's decision to consolidate the regulations for ozone depleting substances into one comprehensive regulation. Although this consolidation should facilitate compliance, the new regulation leaves some unfinished business.

5.1 Less and Less: Budgets for MOE and MNR Not Meeting Needs

The bulk of the responsibility for protecting Ontario's environment and natural heritage falls to two ministries: the Ministry of the Environment (MOE) and the Ministry of Natural Resources (MNR). Since the early 1970s, MOE has been the primary agency protecting Ontario's air, water and ecosystems, regulating municipal and hazardous waste, and overseeing Ontario's environmental assessment process. MNR has been the primary steward of Ontario's terrestrial and aquatic plants and animals, including hundreds of protected areas, and has been responsible for overseeing the extraction of certain natural resources, such as timber, stone, sand and gravel. However, much has changed for these two ministries since their early days. The scope, volume and complexity of their responsibilities have grown greatly, as those responsibilities have for environmental regulatory agencies in all jurisdictions. There are at least two reasons for this.

1. The core business of these two ministries has become much more complex.
2. They must also deal with expanding responsibilities and address some entirely new environmental issues.

Managing a More Complex Mandate

The strong growth in Ontario's population and economy in recent decades has required MOE and MNR to consider environmental impacts of increasing magnitude and from more diverse sectors and industries. At one million manufacturing workers, Ontario is still among the top North American jurisdictions for employment in this sector, but as sectors shift and technologies evolve, the regulatory response to deal with manufacturing-related air, water and waste emissions also requires increasing sophistication. MOE estimates that the known regulated community addressed by MOE's current compliance programs is greater than 150,000 systems, facilities and activities, and that its risk-based inspections cover only 4 to 5 per cent of this community annually. Ministry staff must also apply much higher levels of technical and science skills to their work. For example, in a previous generation, inspectors gauged black smoke by eye. Today, ultra-fine particulate emissions can also be monitored by high-tech equipment and predicted by complex mathematical models. Meanwhile, transportation-related air emissions have grown in relative importance, contributing to a need for better monitoring along traffic corridors. Land use conflicts are increasingly common and difficult, as industrial, rural and residential zones are pushed up against each other. Population pressures in southern Ontario have also made the protection of biodiversity and other natural heritage concerns more challenging.

Tackling an Expanding Array of New Issues

Climate change, biodiversity, invasive alien species and oversight of new development in the Far North are all very complex challenges. They require not just technical responses, but also multi-ministry and multi-jurisdictional co-ordination, the education and engagement of citizens, and the deployment of significant resources. Major new legislative initiatives, including the *Lake Simcoe Protection Act, 2008,* the *Endangered Species Act, 2007,* the *Green Energy Act, 2009,* and the *Far North Act, 2010* have been passed in the last few years, all requiring significant resources for effective implementation. With the contemplated expansion of mining, forestry and hydro facilities into Ontario's Far North, both MOE and MNR will need to have a strong regulatory presence, overseeing site-specific water takings, air emissions, wastewater discharges and habitat alterations. For example, the ECO's 2009/2010 Annual Report pointed to instances where MNR had to step in and shut down an illegally constructed mining camp and airstrips in the Far North.

Public expectations for transparency, accessible background information and consultative approaches to decision making have also increased greatly. All leading jurisdictions have experienced these trends in public participation, and rightly so, since these inclusive approaches strengthen both accountability and environmental protection. However, they also require that the regulating agencies have the capacity to deliver.

Capacities: Not Keeping Pace

To respond to the increased scope and complexity of many files, both ministries require adequate levels of funding, staffing and expertise. However, as the ECO reported in our 2007 Special Report "Doing Less with Less," the overall capacities of MOE and MNR have not kept pace, in real terms, with their increased responsibilities. The ECO concluded in 2007 that MOE and MNR "have not been allocated financial resources in accordance with the growth in the overall operating budget of the Ontario Government.... The net effect of Government policies and budget priorities over the last 15 years has been to limit the capacity of MOE and MNR to undertake their basic functions in a timely, effective and comprehensive manner. As a result, Ontario is losing ground on meeting the most basic obligations for protecting the environment." In fact, the ECO's review of the operating budgets of both ministries between 1992 and 2007, under the administration of four governments, clearly showed that by 2007 neither ministry had fully recovered from cuts made in the early to mid-1990s.

In the ECO's 2007/2008 Annual Report, we reported on some encouraging signs of rebuilding at both MOE and MNR. Based on the 2008/2009 estimates, MOE's three main programs – Air, Water and Waste – had all received substantial funding increases. MNR's budget had also received increases for Forest Management, Fish and Wildlife (now the Biodiversity Program), and Enforcement.

Has this improving trend been sustained, or was it a short-term blip? To determine the answer to this question, the ECO has updated its 2007 analysis by examining the most recent three years of operating budgets for both ministries. Since some of MNR's forestry management responsibilities and operating budget were transferred to the Ministry of Northern Development, Mines and Forestry (MNDMF) in 2008/2009, the MNR comparison includes MNDMF's operating budget for forestry. In the analysis that follows, some historical dollar figures have been revised to reflect recent input from MNR and MOE and, unless otherwise noted, all dollar figures are in 2009 constant dollars.

MNR's and MOE's Share of Ontario's Operating Budget Continues to Decline

For the fiscal year ending March 31, 2011, the Ontario government's total planned operating budget was approximately $119 billion, a 72 per cent increase since 1992/1993. During that same period, however, MNR's operating budget (including MNDMF's forestry program) declined by 22 per cent and MOE's budget dropped by 45 per cent (in 2009 constant dollars).

As seen in Table 5.1.1, the Ontario government has allocated just 0.31 per cent of its 2010/2011 total operating budget to MOE and 0.45 per cent to MNR (not including the forestry budget transferred to MNDMF). In other words, only approximately *three-quarters of one cent* of every tax dollar to be spent on government operations in 2010/2011 were allocated to the environment and natural resources. By contrast, of every tax dollar assigned to operations, the Ontario government has allocated 37.57 cents to health care and 17.97 cents to education.

Table 5.1.1
Planned Allocations of the 2010/2011 Ontario Provincial Budget

Ministry	Total Operating Estimate (Millions of Dollars)	Per Cent of Overall Budget
Health and Long-Term Care, Health Promotion	$44,634	37.57%
Education	$ 21,349	17.97%
Finance	$14,480	12.19%
Community and Social Services	$ 9,222	7.76%
Training, Colleges and Universities	$7,177	6.04%
Children and Youth Services	$4,652	3.92%
Revenue	$4,201	3.54%
All Other Operating Expenses	$2,640	2.22%
Community Safety and Correctional Services	$2,268	1.91%
Government Services	$2,177	1.83%
Transportation	$1,401	1.18%
Energy and Infrastructure	$976	0.82%
Agriculture, Food and Rural Affairs	$862	0.73%
Tourism and Culture	$650	0.55%
Municipal Affairs and Housing	$625	0.53%
Northern Development, Mines and Forestry[1]	$574	0.48%
Natural Resources[2]	$536	0.45%
Environment	$366	0.31%
Total	**$118,790**	**100.00%**

[1] The MNDMF allocation includes the operating funds allocated to the forestry program, which was formerly housed within MNR.
[2] The MNR allocation includes funds from the Special Purpose Accounts (SPAs) but not the forestry program.

In fact, as shown in Figure 5.1.1, the combined percentage allocation to MNR and MOE of the overall operating budget has declined by over 64 per cent during the review period from a high of 2.15 per cent in 1992/1993 to a low of 0.76 per cent in 2010/2011.

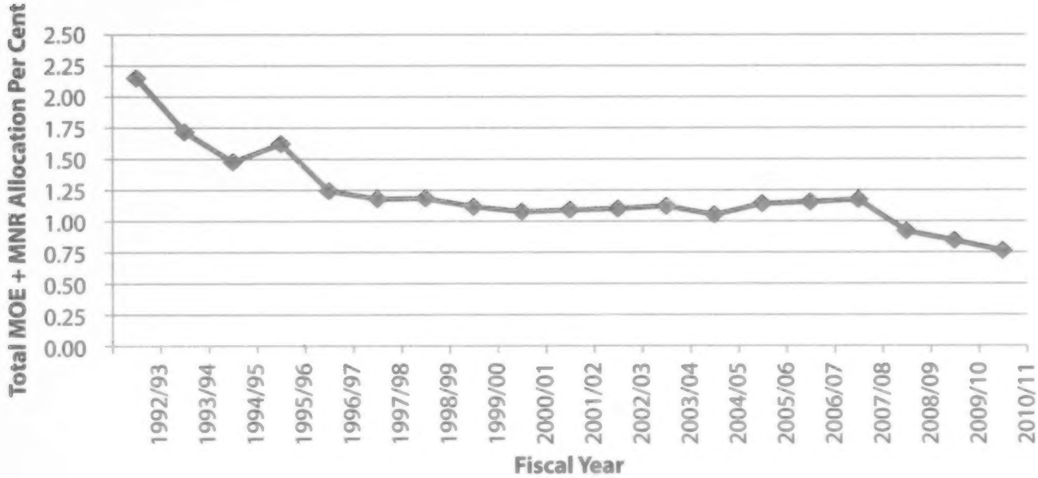


Figure 5.1.1. Total MOE and MNR per cent allocation of Ontario's operating budget.

MNR Continues to Operate on Fewer Dollars than in 1992/1993

Figure 5.1.2 shows that in 1992/1993, the first year of this review, MNR had its highest operating budget, $795 million. In the following years, it declined sharply (with a few exceptions) and then levelled off. From 2004/2005 to 2007/2008, the year after "Doing Less with Less" was published, MNR's operating budget improved to $747 million. However, since 2007/2008, it has declined to a planned $620.4 million (including the Forestry Program now housed in MNDMF) in 2010/2011, about 22 per cent less than in 1992/1993 (in 2009 constant dollars).

Included in MNR's numbers are the Special Purpose Accounts (SPAs) for the Fish and Wildlife and Parks programs. Revenue earned from fishing and hunting licences, tags, park admissions, etc., are directed to these accounts and, in 2010/2011, will be used to fund approximately 70 per cent of the Fish and Wildlife program and 83 per cent of the Parks program.

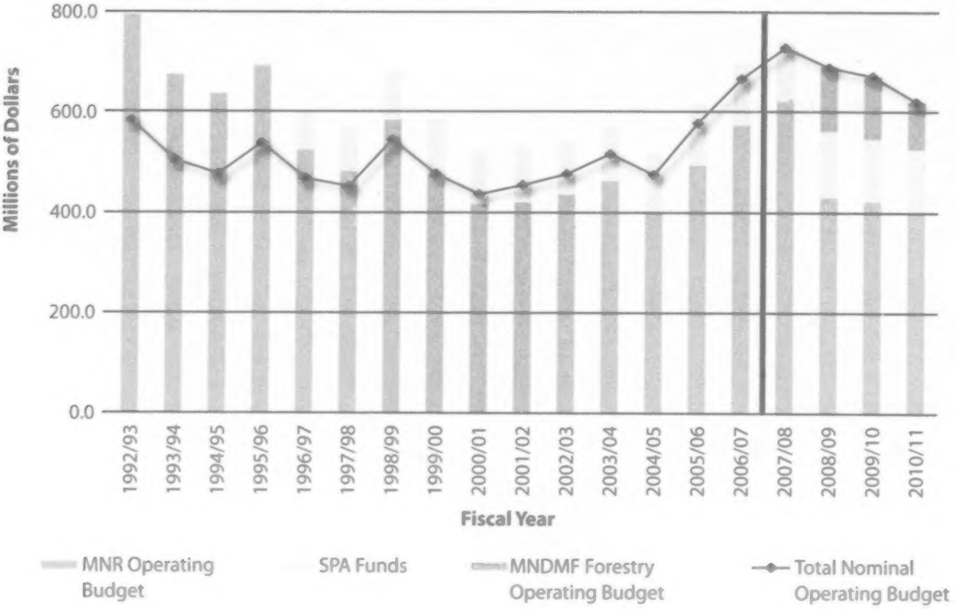


Figure 5.1.2. Adjusted and nominal operating budgets for MNR including forestry from 1992/1993 to 2007/2008 and MNR minus forestry plus MNDMF forestry from 2008/2009 to 2010/2011.

MOE Continues to Operate on Fewer Dollars than in 1992/1993

Figure 5.1.3 shows that in 1992/1993, MOE had its highest operating budget, $692.3 million. It then declined sharply, leveled off, improved for a few years, and then declined abruptly in 2006/2007 to $292.8 million. Since then, it has slowly improved. Still, in 2010/2011, MOE's planned operating budget is $379.3 million, 45 per cent less than in 1992/1993 (in 2009 constant dollars).

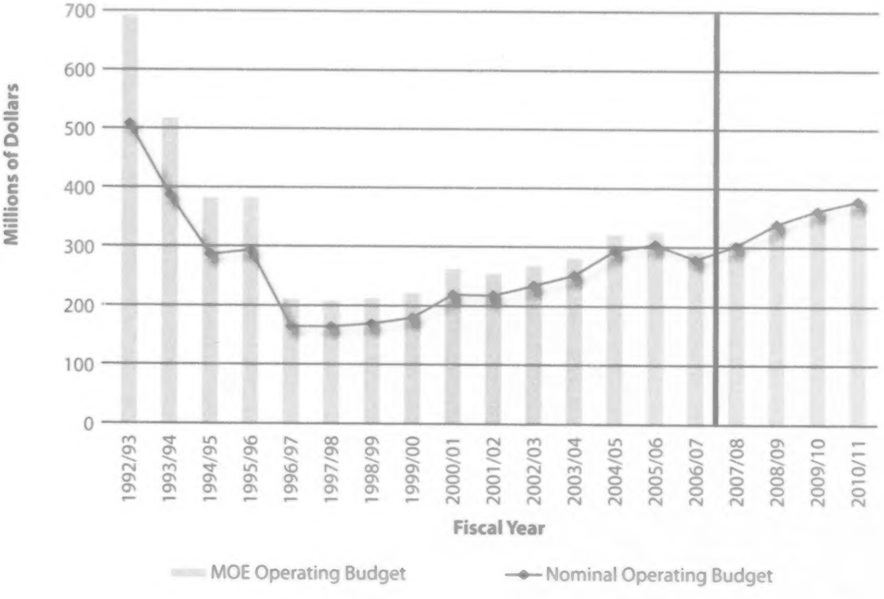


Figure 5.1.3. Adjusted and nominal operating budgets for MOE from 1992/1993 to 2010/2011.

ECO Comment

The ECO's evaluation shows that since the early 1990s, Ontario has allocated a declining percentage of its overall operating budget to oversight of the environment and natural resources. Any incremental increases in funding to MOE and MNR have not changed this basic, troubling observation.

The combined strains of increasing complexity and expanding responsibilities have been evident at both ministries. Engagement on new and emerging issues seems an ongoing challenge. Examples include: nanotechnology, with uncertain implications for the natural environment (see Part 10.1 of the ECO's 2008/2009 Annual Report); shale gas extraction, a new industry burgeoning in nearby jurisdictions, with potential for significant environmental impacts (see this Annual Report, Part 6.1); biofuels, another nascent industry with many unknowns for forest soils and long-term sustainability (see Part 4.3 of the ECO's 2008/2009 Annual Report); and the assessment of cumulative impacts. Overstretched resources may well be part of the reason for a slow response on such files.

MOE and MNR have repeatedly been expected to deliver ambitious programs by realigning existing resources. The ministries struggle to find efficiencies, to streamline their operations (see Part 5.2: MOE's Modernization of Approvals), and to redirect operational dollars and staff to the latest important priorities. As a result, ongoing core responsibilities can go begging, a problem amply illustrated throughout the ECO's 2009/2010 Annual Report. The ECO noted, for example, that MNR's current afforestation efforts in southern Ontario pale in comparison to previous efforts. The ministry's response acknowledged the need to increase afforestation, but noted it "would require significant capacity increases." The ECO was also "dismayed that many ministry offices, particularly those of MNR … are locked and inaccessible," making it almost impossible to view site-specific approval documents related to proposals posted to the Environmental Registry. MOE's oversight of municipal wastewater effluents was similarly found lacking in public transparency: "MOE, which regulates wastewater effluents, has not published an overview of basic performance parameters, such as pollution loadings and overall compliance rates, since 1993." The ECO also raised concerns about oversight of older landfill sites – concerns to which the ministry is now responding.

The evidence is strong that long years of "streamlining" and "realigning" at MNR and MOE, coupled with steadily growing responsibilities, have brought about a crisis of capacity in those ministries. Capacity is stretched too thin on core responsibilities. Ontario needs to make a long-term commitment to gradually rebuild MOE and MNR and to spend considerably more than one cent of its tax dollar on protecting our environment and our natural heritage.

For ministry comments, please see Appendix C.

5.2 Modernization of MOE's Approvals Framework

The Ministry of the Environment's (MOE's) core responsibility is protecting the air, land and water in Ontario to ensure healthy communities and long-term ecological sustainability. As one of the key tools for administering this responsibility, the ministry issues Certificates of Approval (Cs of A) to regulate activities that may have an impact on the environment. However, for many years, MOE has struggled to handle the overwhelming volume of applications for Cs of A that are submitted.

To address this challenge, MOE proposed a new framework for its approvals process in March 2010. This modernized approvals process was formally adopted in October 2010 through the province's *Open for Business Act, 2010*, an omnibus bill that included amendments to the *Environmental Protection Act* (*EPA*) and the *Ontario Water Resources Act* (*OWRA*). Most of these amendments came into force on October 31, 2011.

MOE's Current Approvals Framework

Under MOE's existing approvals framework, proponents of certain activities must apply to MOE for a C of A prior to establishing, operating or altering their operations. Activities subject to a C of A include: landfills; incinerators; waste collection, hauling and processing facilities; operations and equipment that emit contaminants into the air; and sewage works that collect, treat or discharge wastewater.

MOE reviews each application and, if satisfied that the activity complies with all environmental laws and will not adversely affect the environment, issues a C of A. MOE may impose a broad range of conditions in the C of A (governing design, operation, maintenance, monitoring, reporting, emission limits, etc.) to minimize potential adverse effects from the activity. Proponents are legally required to comply with all conditions in their C of A.

Application Backlogs and Processing Delays

MOE receives about 6,500 applications for new or amended Cs of A each year. MOE's inability to quickly process this large volume of applications has resulted in major backlogs and unacceptably long processing timelines. While MOE has introduced several measures over the past decade to reduce delays and eliminate the backlog, the Auditor General of Ontario noted in 2010 that proponents still face long wait times for approvals, often close to a year.

Outdated Certificates of Approval

MOE has issued an estimated 250,000 Cs of A since the ministry was first established 40 years ago. While about one-fifth of these approvals may relate to facilities no longer operating, and others have been issued or amended more recently, a significant number of Ontario facilities continue to operate under the authority of approvals issued long ago. Some of these Cs of A date back to the 1970s, when approvals contained no conditions at all. Many others, from the 1980s and 1990s, contain minimal conditions that reflect outdated environmental standards. These older Cs of A, which lack expiry dates, allow proponents to continue operating indefinitely with little incentive to improve operations in accordance with new environmental knowledge or technological advancements.

MOE has long identified the need for a systematic review of older Cs of A, estimating that roughly 50,000-70,000 approvals require updating. However, this presents a huge resource challenge for the ministry. Over the past couple of years, MOE has made some limited headway in updating approvals, but these efforts only scratch the surface of the overall work required.

Facilities Operating without Approvals

Presenting an additional challenge, MOE has estimated that up to 40 per cent of all Ontario facilities (mostly small businesses) may be operating without any environmental approvals at all.

MOE's Modernized Approvals Framework

MOE's modernized approvals framework replaces the current approvals process with the following two-path process:

1. a simplified **Registration Process** for activities that are "lower-risk, standard or less complex;" and
2. continuation of the **Approvals Process** for all other activities.

Registration Process

The new registration process is akin to a "permit-by-rule" system. MOE will establish an online "Environmental Activity and Sector Registry," and Cabinet may prescribe activities that are subject to registration, as well as prescribe criteria for registering and ongoing requirements for registered activities (e.g., operating, maintenance, monitoring and reporting requirements). Every person engaging in a prescribed activity will be required to register their activity by the date specified in the regulation, and existing Cs of A for prescribed activities will cease to be valid.

Upon meeting all of the requirements for registration (i.e., declaring that the facility meets the eligibility requirements, paying the required fee, and providing financial assurance where required), the registrant will receive immediate confirmation of the registration, allowing the person to engage in the activity. There will be no ministry review of the individual activities.

Prescribing Activities

MOE has committed to implementing a thorough, multi-stage consultation process for developing the regulations to implement the modernized approvals framework. In keeping with this commitment, in January 2011, MOE used the Environmental Registry to begin consultation on the first group of proposed activities to be prescribed under the registration process:

- automotive body, paint and repair sector;
- comfort heating in buildings;
- printing sector; and
- standby power generation equipment in buildings.

In April 2011, based on the public comments received, MOE decided to proceed with prescribing these proposed activities, except for the printing sector (which will undergo further analysis), and began a second round of consultation on the draft regulation to prescribe these activities. On June 14, 2011, O. Reg. 245/11 was filed, prescribing these activities.

Environmental Compliance Approvals

For all activities that do not fall within the registration process, proponents will continue to be required, as before, to obtain an approval from MOE. However, "Certificates of Approval" have been renamed "Environmental Compliance Approvals." Environmental Compliance Approvals are essentially the same as Cs of A, with some new provisions.

Operational flexibility: MOE now has explicit authority to build operational flexibility into approvals, which will allow proponents to make specified changes to their operations without requiring an amendment to their approval. In practice, MOE has already begun to do this.

Site-wide approvals: MOE may issue site-wide approvals, which would encompass all of a facility's activities and emissions from all media (air, waste and wastewater) and emission sources.

Multi-site approvals: MOE may issue multi-site approvals, which would cover all media and associated emissions from multiple sites, provided that the proponent is operating the same activity, with similar emissions and similar requirements, at all sites.

System-wide approvals: MOE may issue system-wide approvals, which would cover all media and associated emissions for an entire inter-connected sewage or waste management system.

Implications of the Decision

Lightening the Load for Business and Ministry

One of the stated goals of the modernization agenda is to improve service delivery to business, making Ontario "more attractive for business development." Although not explicitly stated, another fundamental goal of the modernization agenda is to reduce pressure on ministry approvals staff by decreasing the number of applications subject to MOE review.

The new registration process has the potential to dramatically reduce administrative burdens for both business and MOE. Registration will provide a much simpler, faster and more certain process by: establishing consistent regulatory standards for each activity; establishing requirements that are proportionate to the risk and complexity of the activity; and enabling registrants to immediately begin operating once all requirements are met.

In addition, the issuance of site-wide, multi-site and system-wide approvals (rather than individual approvals for all media, emission sources, activities and sites), as well as the inclusion of operational flexibility in more approvals, should further reduce the number of applications that must be submitted by businesses and reviewed by MOE. Combined, these measures should help reduce backlogs and processing times for the remaining approvals.

Focusing Ministry Resources on Higher-Priority Activities

Under the current framework, all activities go through the same general approval process regardless of the complexity and potential risk posed by the activity. MOE has suggested that this "one-size-fits-all" approach, which requires staff to spend time reviewing and approving straight-forward, low-risk activities, is not the best use of the ministry's limited staff resources.

The new risk-based framework enables MOE to apply different tools to different activities, allocating its resources in a manner that achieves the greatest benefit. Under the new framework, MOE will focus staff resources on reviewing applications for facilities and activities that pose a greater risk to the environment and human health.

The new registration process also has the potential to create efficiencies and better focus ministry resources. For relatively simple, low-risk activities, MOE can develop a single set of requirements that are designed to be protective of the environment and human health, rather than creating individual requirements for each approval.

Regulations will Dictate Level of Environmental Protection

The second stated goal of the modernized framework is "maintaining and, where possible, enhancing protection of the environment and human health." Whether this goal will be met depends largely on how the registration process is implemented.

While MOE has stated that only "lower-risk, standard, well-understood or relatively less-complex" activities will be prescribed, the *EPA* and *OWRA* provide no direction or criteria as to which activities can or should be prescribed. As such, there is considerable flexibility (and uncertainty) as to how liberally the registration process will be applied.

Similarly, the legislation is completely silent as to what (if any) conditions and operating requirements Cabinet should prescribe. The actual scope and content of the regulatory provisions will greatly determine the extent to which the registration process protects the environment. Potentially, the registration process could actually raise the minimum bar in some cases, as well as level the playing field for registered businesses engaging in a prescribed activity.

Increasing Transparency; Decreasing Consultation and Appeal Rights

The third and final stated goal of the modernized approvals framework is to "improve public transparency and availability of information." To this end, MOE has uploaded over 45,000 Cs of A to a publicly accessible and searchable electronic library, and intends to post all future approvals and registrations. These new online databases provide important tools for improving transparency and public access to both registrations and approvals.

While individual registrations will be publicly available, they will not be subject to the public consultation and third-party appeal rights that currently apply to most Cs of A. This loss of consultation and appeal rights, however, will be somewhat offset by the opportunity to comment on the generic requirements for prescribed activities to be set out in regulation (see box on prescribing activities).

Establishing a Framework for Updating Approvals

New provisions added to the *EPA* authorize MOE to develop a regulation that would require all approval holders within a sector to apply for a review of their existing Cs of A by a specified date. MOE would then review and replace the Cs of A with an updated Environmental Compliance Approval. Updating the tens of thousands of outdated Cs of A would ensure consistency with today's environmental standards, as well as create a more level playing field for all businesses engaging in the same activity. However, MOE has suggested that such sector-by-sector updates could take up to 15 years to complete.

Another new provision in the *EPA* authorizes MOE to impose renewal dates in all approvals. While MOE already had broad discretion to impose any terms in an approval, this explicit authority could potentially impel MOE to implement a process for regular review of approvals.

Engaging Non-Compliant Businesses

MOE believes that the difficulty in obtaining a C of A under the current process may be one reason that many facilities are operating illegally without any approval at all. MOE hopes that the simpler registration process may entice some of the non-compliant facilities to register. Bringing even a fraction of the unregulated facilities into the regulated system could increase environmental protection.

Making the Case for a Stronger Inspection Program

A sound inspection program is essential for ensuring that environmental laws, regulations and instruments are being followed. For both the registration and approvals programs to be effective, facilities must know that there is a reasonable prospect of inspection and enforcement. However, MOE only inspects about 5 per cent of all regulated facilities (not even including those facilities operating without approvals) each year, meaning that regulated facilities can go, on average, twenty years between inspections.

The nature of the registration system calls for a stronger, more visible MOE inspection program. The reliance on proponents to self-assess the suitability of their activities and monitor their own compliance with the regulatory requirements demands a higher level of ministry oversight. Yet MOE has not produced any procedures for fulfilling this new inspection responsibility, nor even identified which ministry branch will be responsible for this task, or how it will be funded.

Neglecting Cumulative Effects

The modernization of approvals process did not address cumulative effects. MOE has stated that it is developing a process for considering cumulative effects in its approvals process, but did not address this issue within the modernization agenda. Notwithstanding MOE's ongoing efforts, the absence of an individual review of each activity under the registration process makes it unlikely that the registration process will include consideration of cumulative effects. Even "low-risk" activities produce environmental impacts, and the cumulative effect of several low-risk facilities located closely together (as they commonly are) on the environment and human health can be significant.

Public Participation & *EBR* Process

During public consultation on this proposal, MOE received 54 comments, primarily from industrial, environmental and municipal commenters.

Environmental groups were vehemently opposed to the proposal. They stated that the establishment of a registration process to reduce staff workload was not an appropriate solution to MOE's approvals problems, and that these reforms would weaken one of the ministry's core functions, seriously reduce environmental protection, and erode the public's ability to participate in environmental decision making.

Conversely, industry and municipal commenters supported the general modernization framework. Many of these commenters cited experiences with exceedingly long and costly application processes, even for simple, low-risk activities, or for approval to install pollution control equipment that would benefit the environment. As such, these commenters strongly supported MOE's efforts to simplify and improve the efficiency of the approvals process.

ECO Comment

After a decade of work and multiple attempts to revise its approvals process, the ECO believes that MOE has ultimately developed a reasonable modernized framework.

The unfortunate reality is that MOE is unable to meet the demands of the current approvals process. The need to reduce its approval burden appears to be the primary motivation behind the modernization project, although MOE was less than transparent about this purpose. Viewed in this context, it is clear that part of the solution to MOE's approvals challenges must be allocating greater resources to the ministry to ensure that it has the capacity to process and update all approvals. The ECO continues to urge the government to provide additional resources to MOE to enable the ministry to appropriately administer its core responsibilities (see Part 5.1 of this Annual Report).

However, even if allotted far greater resources, the ECO believes that there would still be a need for MOE to revise its approvals program to operate more effectively. There will always be competing demands for staff and financial resources, and choices need to be made as to how to allocate ministry resources most efficiently. The modernized framework appears to do just that.

The modernized framework should enable MOE to more effectively focus staff resources on reviewing those facilities and activities that are novel, complex and/or pose a higher risk to human health and the environment. The anticipated reduction in applications should also enable MOE to reallocate staff resources to undertake much-needed reviews of outdated approvals. In addition, the new registration process could potentially improve efficiencies and environmental protection by enabling the ministry to: establish a single set of up-to-date environmental standards for all activities in a sector; and update those operating requirements through a single, periodic regulatory amendment, rather than numerous amendments to individual Cs of A.

However, there is no certainty that these potential benefits will be realized. The legislative amendments conspicuously lack the mandatory provisions necessary to achieve these objectives, such as provisions that would:

- *require* MOE to review all transitioned approvals by a certain date;
- *require* MOE to include expiry dates in all new approvals;

- *require* the regulations for prescribed activities to include operating, monitoring and reporting conditions; and
- *require* MOE to regularly update the regulations for prescribed activities.

While MOE has signalled an intention to do all of these things, there is no certainty that they will be done. The ECO urges MOE to use its full discretionary authority to implement each of these elements of the new framework.

The ECO also has serious concerns that the *EPA* and *OWRA* amendments have not provided any parameters to define which activities may fall within the registration process. Given the reduced oversight of registered activities, the ECO strongly urges MOE to apply the registration process judiciously to activities that are truly low risk. Furthermore, it is critical that the new regulations exclude individual activities or facilities that are not suitable for registration due to any special circumstances (e.g., unique features, sensitive local conditions, history of non-compliance, etc.), and that the regulations include rigorous operating requirements that are at least as protective as those currently found in the most stringent corresponding Cs of A.

Furthermore, the new registration process must be accompanied by a much stronger inspection program to ensure that registrants comply with all regulatory requirements. MOE has provided no commitment to increase its inspection presence. The ECO urges MOE to develop a detailed compliance and enforcement strategy specific to the registration process and to allocate additional staff and other resources to ensure sufficient ministry oversight of all registrants.

Lastly, the ECO notes that MOE's modernized process provides some important improvements in terms of transparency and access to information. Difficulty accessing approvals-related information has been a long-standing concern of both the public and this office. Accordingly, the ECO lauds the ministry on its new publicly accessible approvals database. However, the new registration process represents a step backward in terms of public participation. The absence of any opportunity for public involvement in individual registrations provides yet one more reason why MOE -- on behalf of the public – must very strictly administer and enforce the requirements under the registration process.

Recommendation 9:

The ECO recommends that MOE review and revise its inspection planning program and its Compliance Policy: Applying Abatement and Enforcement Tools (Policy F-2) to include an effective compliance and enforcement strategy specific to the registration process.

For a more detailed review of this decision, see Section 4.6 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

5.3 What a Waste: Failing to Engage Waste Reduction Solutions

Every day, Ontario generates more than 33,000 tonnes of waste. Over the course of a year, this adds up to more than 12 million tonnes, or more than 900 kilograms per person. Sending waste materials to disposal is problematic, not only because it fills up landfills that must be monitored for the migration of contaminants, but also because disposal typically uses more energy, resources and virgin materials than reuse and recycling. The provincial government has struggled for decades with how to address Ontario's waste dilemma.

Ontario's Waste Diversion Framework

Recognizing the need to reduce the waste sent to landfill, in October 1990, the Ministry of the Environment (MOE) set two provincial goals for reducing the per capita amount of non-hazardous solid waste sent to disposal in Ontario; using 1987 as the base year, the ministry aimed to reduce per capita waste disposal by 25 per cent by 1992 and by 50 per cent by the year 2000. As a first major step toward meeting these goals, the government introduced the "3Rs" regulations under the *Environmental Protection Act* (*EPA*) in the mid-1990s. These regulations required residential "blue box" recycling, as well as waste diversion efforts in the industrial, commercial and institutional (IC&I) sectors (e.g., manufacturers, restaurants, hotels, hospitals). Unfortunately, MOE's enforcement of these regulations is lacking.

In 1993, the government announced that it had met its 1992 waste reduction target. This achievement was largely due to the expansion of municipal recycling programs in the early 1990s, which skyrocketed Ontario's diversion rate (i.e., the percentage of waste diverted from landfill) from about 3 per cent in 1987 to 20 per cent in 1994 (see Figure 5.3.1). However, this initial progress did not continue for long; Ontario's diversion rate hit a plateau in the latter part of the decade, and the government fell well short of its 2000 waste reduction goal.

In 2002, the Ontario government enacted the *Waste Diversion Act, 2002* (*WDA*) to promote the 3Rs (reduction, reuse and recycling of waste) and provide for the development, implementation and operation of waste diversion programs. The *WDA* sets the stage for mandatory extended producer responsibility (EPR) – the concept that "stewards" (i.e., anyone with a "commercial connection" to the designated waste, which in most cases would mean the product manufacturers and/or importers) should be responsible for managing the waste generated at the end of their product's life.

Under the *WDA*, the Minister of the Environment may designate materials as wastes and request that Waste Diversion Ontario (WDO) – a non-Crown corporation comprised of representatives from industry, municipal and commercial sectors, and the environmental community – develop a diversion program for that waste in co-operation with an industry funding organization (IFO). The IFO: identifies stewards of designated wastes; designs the program submitted for WDO and MOE approval; and determines each steward's proportion of approved program costs. Generally, IFOs finance programs by charging stewards fees for the products they introduce into the Ontario marketplace.

In 2004, the government set a new target: to increase Ontario's diversion rate to 60 per cent by 2008. In the same year, the Blue Box Program, the first program established under the *WDA*, formally entrenched industry funding for municipal blue box programs; industry stewards are required to reimburse municipalities 50 per cent of the costs to collect and recycle residential blue box materials (e.g., aluminum and steel containers, glass bottles and jars, newsprint, and certain plastic containers, as well as additional materials in a number of communities).

Since 2008, Ontario has introduced several more waste diversion programs, including the Municipal Hazardous or Special Waste (MHSW) Program (for paint, antifreeze, fertilizers, oil filters and containers, and other designated household hazardous wastes), the Waste Electrical and Electronic Equipment (WEEE) Program (for computers, televisions and other electronic equipment), and the Used Tires Program (for vehicle tires). Unlike the Blue Box Program, the new programs make stewards 100 per cent financially responsible for the end-of-life management of their products.

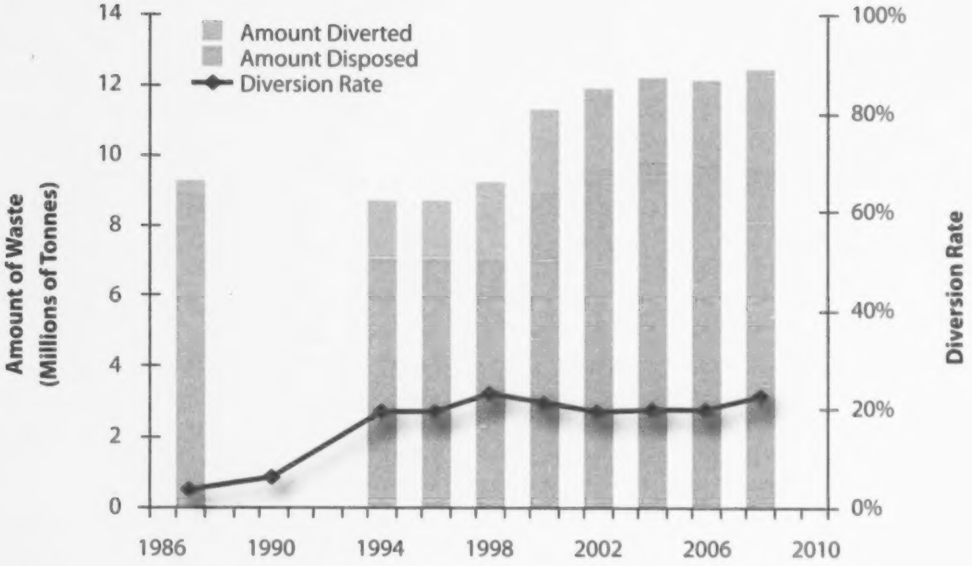


Figure 5.3.1. Ontario's waste diversion rate (line graph) and amount of waste disposed and diverted. Prior to 2000, disposal estimates excluded waste that was exported out of the province. Data on the annual amounts of waste diverted and disposed between 1986 and 1994 were unavailable. Sources: Waste Reduction Action Plan (Ministry of the Environment, 1991); Recycling Roles and Responsibilities Final Report (Recycling Council of Ontario, 1998); Waste Management Industry Survey: Business and Government Sectors (Statistics Canada, 1998, 2000, 2002, 2004, 2006, 2008).

The "Eco Fees" Imbroglio and MOE's Retreat from Product Stewardship

On July 1, 2010, Ontario's MHSW Program was expanded to divert 13 additional categories of household hazardous waste (including rechargeable batteries, fire extinguishers, certain household cleaners, mercury-containing devices, fluorescent bulbs, pharmaceuticals, etc.) from landfill. As with Ontario's other diversion programs, stewards could choose to either absorb the fees they were charged to cover program costs or pass some or all of the fee along to retailers, who likewise could pass some or all of their cost increase on to consumers. Some retailers chose to add a separate "eco fee" line to their receipts, creating widespread confusion and anger that a "recycling tax" was being imposed by the government. Further outrage occurred when it was discovered that Canadian Tire was charging widely variable "eco fees," some of which exceeded the amount charged to stewards by the IFO.

After much negative media and public outcry, in October 2010, MOE announced that it was permanently ending the expanded MHSW Program and would provide funding to municipalities to divert the designated wastes from landfill. As a result, the costs of managing these wastes have been transferred from stewards back to taxpayers. Moreover, because of the controversy, MOE appears to have delayed its intended overhaul of the *WDA*.

For more information on this issue, see the ECO's July 2010 Special Report, "Getting it Right: Paying for the Management of Household Hazardous Wastes."

Problems with Ontario's Waste Diversion Framework

Although residential waste diversion has increased over the past decade, diversion in the IC&I sectors has decreased, such that Ontario's overall diversion rate (as calculated in 2008) is still only about 23 per cent – practically the same as it was a decade earlier, and well below the province's 60 per cent target. Furthermore, over the past decade, the amount of waste generated each year has increased (see Figure 5.3.1), further hampering progress in reducing the amount of waste sent to disposal. Clearly, province-wide progress in reducing the percentage of waste sent to disposal has stalled. New and dramatic changes to Ontario's waste diversion framework are needed to move waste reduction and diversion forward.

The *WDA* requires that the Minister shall cause a review of the Act to be undertaken within five years of the Act coming into force. In October 2008, MOE initiated this review by posting a discussion paper, Toward a Zero Waste Future: Review of Ontario's *Waste Diversion Act, 2002*, on the Environmental Registry. The notice solicited feedback on the *WDA* and MOE's proposal to adopt a zero waste vision.

After completing this consultation, MOE posted a Minister's report on the Registry in March 2010, From Waste to Worth: The Role of Waste Diversion in the Green Economy, which summarized the results of the *WDA* review and launched a public dialogue on proposed changes to Ontario's waste diversion framework. In addition, MOE had previously posted a discussion paper and a policy statement on the Registry related to the province's waste diversion framework: Ontario's 60% Waste Diversion Goal – A Discussion Paper (2004) and MOE's Policy Statement on Waste Management Planning: Best Practices for Waste Managers (2007).

These four policy proposals identified a number of problems, which are summarized below.

The *WDA* Fails to Prioritize Waste Reduction and Reuse over Recycling

MOE observed that "while the 3Rs are mentioned in the Act, the Act could be revised to better promote waste reduction, reuse and recycling, in that order. A key policy outcome is greater reduction of waste at the source. Not producing waste in the first place is the best way to move toward zero waste, and provides the greatest environmental benefits and potentially the greatest economic advantages to society."

Skewed Cost Structure Makes Landfill Cheaper than Recycling

According to MOE, "on average, waste disposal in landfills is one-third to one-half the cost of diversion. However, the long-term environmental costs of landfills are seldom considered when establishing and operating a landfill. The absence of proper accounting for the true costs of waste results in most waste being disposed of in landfills rather than sent for reuse or recycling – the cost structure is not conducive to diverting waste."

Diversion Programs Fail to Cover all Costs

Another problem recognized by MOE is that "the only costs attributable to producers in programs are the costs associated with recycling the material collected within the program. The management costs associated with whatever products and packaging are not collected in an approved waste diversion program are borne elsewhere – either by municipalities and their taxpayers, or by other businesses or consumers."

Poor Diversion of Organic Waste

Organic waste represents about one-third of the total waste generated in Ontario. Despite MOE considering a program as early as 2002 and acknowledging in 2004 that reaching Ontario's 60 per cent goal would be "determined in large part by finding better ways of dealing with the large portion of solid waste that is made up of organic materials," there is still no province-wide organic waste diversion program or target.

Poor Diversion in the IC&I Sectors

Ontario's IC&I sector generates approximately 60 per cent of the province's waste, but its diversion rate is only about 13 per cent. MOE recognizes that "for Ontario to build a greener, more sustainable economy that encourages businesses to harness opportunities to be innovative, and drive toward a zero waste future, increasing diversion rates within the IC&I sectors, preferably through approaches consistent with the framework of [EPR], is essential." MOE has also identified that "many small and medium-sized businesses are not captured under the [3Rs] regulations, even though, in aggregate, they probably generate more waste."

No Financial Incentives to Reduce Waste

MOE acknowledges that "current programs under the Act do not encourage producers to focus on waste reduction first, reuse second, and recycling third. Instead, they generally focus on finding the least costly means of collecting and recycling materials." Since steward fees are generally uniform across producers, MOE recognizes that "there is no direct financial incentive provided to individual producers to reduce their costs through product design, such as designing a product that is easier and cheaper to recycle. The lack of direct financial incentives to improve product design can be an impediment to reducing waste, increasing reuse, and ultimately striving for zero waste." And although stewards under the Blue Box Program pay fewer fees when they reduce their packaging or use materials that are easily recycled, MOE notes that "incentives for producers to strive for zero waste are reduced, since they are not fully responsible for all costs and are too far removed from the end-of-life handling of their products."

Lack of Fairness in the Way Costs are Allocated

Because the costs of the Blue Box Program are not borne wholly by stewards, but also by municipalities (and therefore taxpayers), MOE observes that "a municipal taxpayer who generates little waste may in fact end up paying into the system more than his or her fair share of the cost of managing the waste he or she generates."

Inadequate Coverage of Materials under the *WDA*

In its 2009 report on the *WDA* review, MOE admitted that "the programs under the *WDA*, while important, will only result in incremental gains in the provincial waste diversion rate. The materials designated, are significant from a pollution prevention perspective, but represent a relatively small portion [15 per cent] of the total waste generated."

Lack of Ministry Oversight and Authority

The ministry has noted that while the Minister may accept or reject a proposed waste diversion program, the Minister cannot modify it once received. Moreover, the Minister lacks the ability to enforce timelines related to program development and implementation and the Act provides no authority to penalize any party in these circumstances.

In addition to identifying problems with Ontario's waste diversion framework, MOE's policy proposals discussed a laundry list of forward-thinking possible solutions (see box on waste diversion solutions).

Waste Diversion Solutions Discussed in the Ministry of the Environment's Policy Proposals

- Impose a surcharge on waste sent for disposal
- Ban designated materials from disposal
- Develop a long-term waste diversion schedule to: designate residential and industrial, commercial and institutional (IC&I) materials for diversion (including construction and demolition materials, vehicles, small household items); set timelines and milestones for each material; and set five-year material-specific collection and diversion targets
- Shift the basis of Ontario's waste diversion programs from extended producer responsibility (EPR) to *individual* producer responsibility (IPR), i.e., make individual producers fully responsible for meeting waste diversion requirements for both residential and IC&I waste
- Establish penalties for producers who fail to meet outcome-based requirements
- Require that all waste diversion programs clearly include separate reduction, reuse and recycling components
- Redefine stewardship costs (i.e., steward fees) to better recognize variation in the environmental costs amongst producers' products and packaging
- Reduce steward fees proportional to the expansion of the reuse of their products
- Prohibit producers and retailers from making their environmental management costs (i.e., steward fees) visible as separate charges at point of sale. MOE notes that requiring producers to internalize these costs as another factor of production (which can be mitigated through product design, manufacturing and packaging decisions) acts as an incentive to reduce both the costs and the waste associated with their products
- Require retailers to take back products at end-of-life
- Incorporate deposit return systems for certain products and/or packaging
- Require product labelling that indicates the product's environmental impacts
- Set mandatory waste diversion targets for municipalities
- Require all waste generators in the municipal and IC&I sectors to report waste diversion statistics, including quantities of waste disposed and diverted
- Amend the 3Rs regulations to: increase the scope of their coverage; include more definitive data reporting requirements; and strengthen enforcement measures to encourage the IC&I sectors to divert as much waste as possible
- Increase residential organic waste collection and centralized composting in Ontario's largest municipalities
- Provide training to small businesses to help increase their waste diversion rates
- Change Ontario's Building Code to require new multi-unit residential buildings to provide convenient source separation services for residents
- Streamline the governance and administration of waste diversion programs by: clarifying the roles and responsibilities; introducing a clearer set of checks and balances; introducing more effective compliance tools and penalties; and expanding the composition of industry funding organization Boards of Directors to include non-industry representatives

ECO Comment

For decades, MOE has continued to propose progressive and potentially effective solutions to improve waste reduction and diversion. For example, as early as 1991, Ontario's Waste Reduction Action Plan mentioned that MOE was considering banning recyclable materials from landfill and setting minimum tipping fees for publicly owned landfill sites. Since that time, MOE has posted multiple documents on the Environmental Registry that offer both recurring and new potential solutions.

As of September 2011, however, none of these policy proposals have become decisions. Moreover, notwithstanding the positive steps taken in establishing stewardship programs for used tires, WEEE and some MHSW, the ideas these documents offer have largely gone unimplemented. Most unfortunate, as a result of the July 2010 "eco fees" imbroglio (see box on "eco fees"), MOE's intended overhaul of the dated *WDA* appears to have been shelved.

One of the biggest problems with Ontario's waste diversion framework is that municipalities have been made responsible for managing waste, yet they have no control or influence over the design and recyclability of consumer products or the markets for the collected materials. With no other options, municipalities have tried implementing stop-gap solutions, including expanding landfills, encouraging recycling, and even burning garbage for energy. However, none of these options reduce waste generation, and some might even encourage it. Likewise, while provincial initiatives that focus on the actions of waste generators and managers – such as requiring municipalities and the IC&I sectors to develop waste diversion targets, composting and recycling programs, and monitoring programs – may be useful in improving recycling rates, they do not address the more fundamental issue of source reduction.

Much of the capacity for source reduction lies in the hands of product producers, who currently see little benefit in designing reusable, repairable and recyclable products that cause little environmental damage. Instead, consumer convenience, attractive appearance, and other product features drive design much more than "designing for the environment."

One possible solution is to make stewards fully responsible for collecting and managing their products as waste, with full-cost accounting principles applied so that long-term environmental impacts and protection are included in the cost. If disposal costs were increased to create a disincentive, designing for re-use and recycling, practicing source reduction activities, developing markets for collected materials, and minimizing overall environmental impact would become more attractive.

The ECO recognizes that global manufacturing and distribution systems make it difficult for a single jurisdiction, like Ontario, to dictate product requirements. Nevertheless, managing a product's wastes as an extension of the production and consumption system – and ensuring that the costs and benefits of waste management accrued to producers – would resolve many of the problems identified by MOE.

MOE's multiple policy proposals clearly indicate that the ministry is aware of the many forward-thinking options for advancing waste reduction and diversion. The ECO urges the Minister of the Environment to engage these solutions and follow through on the many ideas available to improve Ontario's waste diversion framework. Moreover, the ministry needs to better educate the public and industry on the implications and importance of EPR, steward fees, and other waste reduction initiatives in order to gain their support and ensure smooth implementation.

For ministry comments, please see Appendix C.

5.4 Missed Opportunities under the *Water Opportunities Act, 2010*

In November 2010, the Ontario government passed the *Water Opportunities and Water Conservation Act, 2010* (*WOWCA*). The *WOWCA* created a new stand-alone act – the *Water Opportunities Act, 2010* (*WOA*) – as well as amended four other provincial acts (see Section 4.7 of the Supplement to this Annual Report for more on those amendments).

The legislation was introduced in the spring 2010 budget, as part of the province's Open Ontario Plan, to help foster the growth of an Ontario-based industry in water and wastewater technologies and services. As the primary means of achieving this goal, the *WOA* establishes a new non-Crown corporation – the Water Technology Acceleration Project (WaterTAP) – that will support the water and wastewater sectors in developing technologies, expanding markets and sharing ideas.

Water Conservation

While the primary motivation for introducing the legislation was economic and job growth, a secondary, but important, objective of the legislation is promoting water conservation. Canadians, including Ontarians, are among the biggest consumers of water in the world. Canadians use, per capita, approximately 4,000 litres of water per day. The majority of this water usage is for industrial purposes (mostly energy production). However, for household water use alone, the average Ontarian consumes approximately 270 litres of water per day, roughly twice as much as the average European.

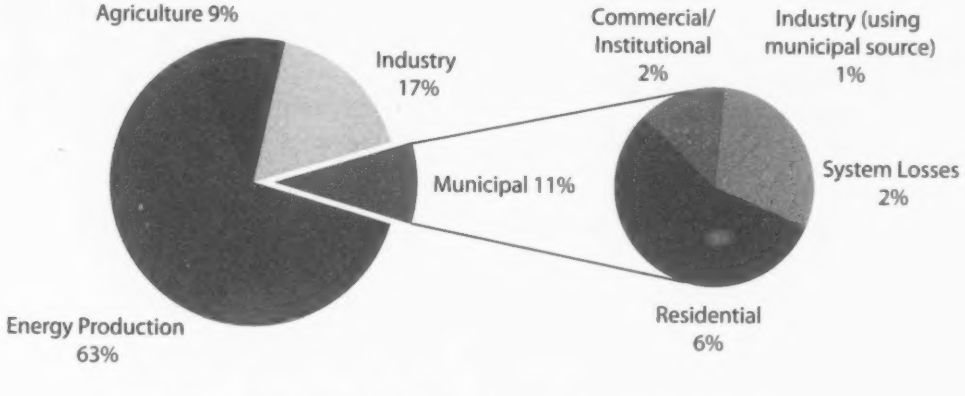


Figure 5.4.1. Water consumption in Canada by sector. Sources: Data from various sources.

Because Ontario's fresh water reserves are so abundant, many Ontarians put little value on conserving water. Yet, our excessive water consumption carries substantial economic and environmental costs. For example, treated tap water is an expensively manufactured product – requiring large amounts of electricity to pump, treat, distribute and heat. Water treatment can account for up to half of a municipality's total energy consumption, while residential water heating can account for 20 per cent of the average household's energy consumption. Similarly, treatment of post-consumption wastewater requires further significant costs and energy use. Water conservation can, therefore, help reduce energy consumption and, in turn, greenhouse gas emissions.

Water conservation can also reduce pressures on local drinking water and sewage treatment infrastructure. For municipalities experiencing population growth and industrial development, conservation measures can extend the life of existing infrastructure and defer or even avoid the need for costly expansions and upgrades.

Water conservation is also critical to maintaining functioning watersheds. Water withdrawals disrupt hydrological systems (e.g., reduce water levels, alter stream flows, deplete aquifers, alter aquatic habitat, etc.). Furthermore, contaminated (or otherwise degraded) wastewater returning to the watershed can impair the quality of the receiving waters.

To help address these concerns, the *WOA* establishes several measures to encourage government (both provincial and municipal) to lead by example in embracing water conservation.

The *WOA* enables the Minister of the Environment to establish provincial "aspirational targets" for water conservation. The use of the term "aspirational," however, indicates that, even if such targets are established, there will be no ramifications if the province fails to meet the targets. Similarly, the *WOA* authorizes Cabinet to establish water conservation targets for prescribed "public agencies" – defined as prescribed provincial ministries or other public entities, including municipalities. Like the province-wide targets, these provisions are merely permissive, and there is no indication of how or when these targets might be set. The Ministry of the Environment (MOE) is required to report on the province's and public agencies' activities and achievements in meeting any of these targets.

Cabinet is also authorized to require prescribed public agencies to prepare "water conservation plans," which must include:

- a summary of annual water use for each of the agency's prescribed operations;
- a description of current and proposed activities to conserve water, and a forecast of the expected results from these conservation measures; and
- a summary of the agency's progress in conserving water, including progress in achieving any self-identified or regulated water conservation targets.

Cabinet may also require prescribed agencies to include water conservation and water protection as evaluation criteria in all procurement and capital investment decisions.

Sustainability of Municipal Infrastructure

To encourage municipalities to plan for and improve the sustainability of their water, wastewater and stormwater infrastructure, the *WOA* enables Cabinet to make regulations that would require all prescribed "municipal service providers" to prepare "municipal water sustainability plans" for their municipal drinking water, wastewater and stormwater services. The specifics of the plan requirements – including which providers would be regulated, the timelines for compliance, the plan contents, and details of plan implementation – would be set out in regulation. However, the *WOA* does state that the plan may include: an asset management plan for the physical infrastructure; a financial plan; a water conservation plan for municipal water services; a risk assessment (including risks posed by climate change); and strategies for maintaining and improving the municipal services.

Improving the sustainability of water, wastewater and stormwater systems is important, as municipalities are known to chronically under-invest in their water and wastewater infrastructure. However, for drinking water systems, most of these requirements already exist under the *Safe Drinking Water Act, 2002*, so it is unclear how the new *WOA* requirements will affect, if at all, the planning practices for drinking water systems.

The *WOA* also authorizes MOE to establish performance targets relating to the "financing, operation or maintenance" of prescribed municipal services, and to direct service providers to review and report on their progress in meeting these performance targets. The ministry could potentially use this power to encourage poorly performing municipalities to improve their stormwater or wastewater systems.

ECO Comment

The goal of the *WOWCA* to support water conservation and "green" water technologies, practices and infrastructure is laudable. Additionally, the recognition of the importance – and interrelationships – of drinking water, wastewater and stormwater systems in protecting hydrological systems is also to be commended. However, most of the *WOA* is merely permissive – it provides government with the authority to implement measures that may promote water conservation, but does not *require* government to do so. The ECO urges MOE to promptly develop, in consultation with stakeholders and the public, the regulations necessary to implement the various components of this legislation.

While the *WOA* cites water conservation as an important goal, the ECO is disappointed that the Act fails to address some of the key measures for achieving this goal. First, the Act fails to directly address water pricing. The ECO has discussed the importance of water pricing extensively in past reports. Ontarians' excessive consumption of water can be attributed, at least in part, to the fact that water is grossly underpriced. Most municipal providers in Ontario charge artificially low water and sewer rates that are a small fraction of the rates in most other countries. In addition, user rates cover only a small fraction of the true costs of the services, with municipalities instead subsidizing their water and wastewater systems through property taxes and provincial grants. Increasing the cost of water and wastewater services can provide not only a major incentive for conservation, but also an important means for ensuring the long-term sustainability and financial self-sufficiency of water and wastewater systems.

Secondly, while the *WOWCA* includes measures to promote water conservation by government, the Ontario government is doing little to address the significant water usage by the industrial sectors. The ECO encourages MOE to use its existing powers (e.g., through conditions in Permits to Take Water) to push industrial water takers to use water more efficiently.

Finally, the ECO urges MOE to develop aggressive and measurable conservation targets for both the province and municipalities. Municipal conservation targets should ideally be set on a watershed basis in a manner that supports functioning hydrogeological systems and considers the cumulative pressures on the watershed.

For a more detailed review of this decision, please refer to Section 4.7 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

5.5 Cleaning Up the Ozone File

Description

The Montreal Protocol on Substances That Deplete the Ozone Layer (the Protocol) is a notable environmental success story. Established in 1987, the Protocol addressed the substantial and ongoing damage to the ozone layer caused by the decades-long release of a number of halogenated synthetic chemicals, including chlorofluorocarbons (CFCs), halons and hydrochlorofluorocarbons (HCFCs). These chemicals were being used in a variety of industrial and commercial products, including aerosols, solvents, sterilizing agents, fire extinguishing equipment, air conditioners, and refrigeration and cooling equipment. By acting in concert via the Protocol, the world's governments reduced the quantity of ozone depleting substances being released. Although the ozone layer's recovery is only beginning, scientists predict a return to pre-industrial levels by the middle of the 21st century.

CFCs, Halons, HCFCs, and HFCs

Chlorofluorocarbons (CFCs) and halons were the first recognized ozone depleting substances. CFCs have commonly been used in refrigeration equipment and air conditioners, as propellants in aerosol cans, as a blowing agent in the manufacture of foam, and as a cleaning solvent and a sterilant. Halons have been widely used in fire extinguishers.

Hydrochlorofluorocarbons (HCFCs) are derived from CFCs. Their use is allowed as an interim measure as they are less damaging to the ozone layer than CFCs.

Hydrofluorocarbons (HFCs) are the favoured replacement for HCFCs; they do no damage to the ozone layer.

However, all are potent greenhouse gases.

Ontario has done its part. The Ministry of the Environment (MOE) amended the *Environmental Protection Act* in 1990, adding Part VI, "Ozone Depleting Substances." This amendment provided MOE with the authority to regulate the eight most common Ozone Depleting Substances (ODSs), as well as any other ODS that might be designated in the future. Five original regulations were made under Part VI, each dealing with a specific type of ODS (e.g., halons).

MOE tidied up its ODS file in late 2010 by consolidating the five regulations under one new one: O. Reg. 463/10 – Ozone Depleting Substances and Other Halocarbons. The consolidated regulation also includes new restrictions regarding fire-extinguishing equipment. The changes prohibit the refilling of portable fire extinguishers with halon (aircraft and military uses exempted) and provide owners of fixed fire-extinguishing equipment with one halon refill by 2015, after which the equipment must be modified or replaced with a non-halon-using alternative within one year. As of January 1, 2016, no refills will be permitted.

Implications of the Decision

The consolidation of all five ODS regulations into one comprehensive regulation will make compliance easier. The new halon restrictions will also help bring that aspect of MOE's ODS requirements closer to harmonization with the National Action Plan (NAP) for the Environmental Control of Ozone-Depleting Substances (ODS) and their Halocarbon Alternatives, first published in January 1998 by the Canadian Council of Ministers of the Environment and last updated and amended in 2001.

In terms of refrigerants, however, MOE's ODS program is still not in full harmony with the NAP, which called for a staged refill ban on all sizes of commercial refrigeration units, beginning with small units in 2004 and ending with large industrial units (>30 horsepower) in 2006. Ontario's regulation only deals with the larger units, banning their use as of January 1, 2012. Environment Canada has stated that the stock of CFCs still in use in refrigeration units of *all* types and sizes represents a significant potential source of ODS leaks.

ECO Comment

The consolidation of five regulations into one updated version is beneficial, as are the new halon restrictions. Also, the ECO commends the ministry for standing firm on the industry request for an extension of the deadline date for larger stationary refrigeration equipment. As the deadline had been promoted widely since 2007, moving it back would have been a regressive step.

The new regulation, however, leaves some business unfinished. First, a prohibition on the refilling of smaller stationary refrigeration equipment should be addressed soon. Second, the ECO encourages the ministry to monitor the issue of the global warming potential of refrigeration alternatives not specified in the regulation and to formally address these if their use increases in the future.

For a more detailed review of this decision, please refer to Section 4.8 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

Part 6 – Emerging Issues

As part of our annual report, the ECO often identifies issues that may be escaping broader public attention, but have the potential for significant environmental impacts, and thus deserve greater prominence and stronger government response. This year, the ECO has chosen to focus on two such topics of interest.

The first article looks at the issue of shale gas exploration – which involves the high-pressure injection of millions of gallons of water, sand and chemicals into drilled wells – and considers whether Ontario's regulatory framework is adequate to address the environmental implications of this relatively new and unproven technology.

The second article discusses how removing carbon from the atmosphere and putting it back into soil can help not only mitigate climate change, but also improve soil health; the ECO identifies opportunities for the Ontario government to develop and take advantage of this promising opportunity.

6.1 Shale Gas and Hydraulic Fracking

Shale gas refers to natural gas that is contained in shale rock, mudstone or laminated siltstones. Unlike conventional natural gas deposits, where gas is extracted easily from permeable reserves through standard drilling practices, shale gas is an unconventional resource. Production requires special drilling techniques and stimulation to economically extract the natural gas from the rock. Canadian provinces with identified shale gas potential include British Columbia, Alberta, Saskatchewan, Ontario, Quebec, New Brunswick and Nova Scotia.

Almost all of southwestern Ontario and some small portions of southeastern Ontario have bedrock units similar to gas producing shale rocks located in Quebec and areas of the United States, however, no comprehensive assessment of shale gas potential has been completed in Ontario. As a result, in 2009, the Ontario Geological Survey of the Ministry of Northern Development, Mines and Forestry initiated a three-year geoscience study, including a collection of surface and buried rock samples, to assess the potential for shale gas extraction. Figure 6.1.1 shows the areas (or "plays") in Ontario with shale gas potential. Notably, the bulk of this potential is located beneath private lands and not Crown lands; therefore, the primary planning document relevant to shale gas extraction is the Provincial Policy Statement, 2005.

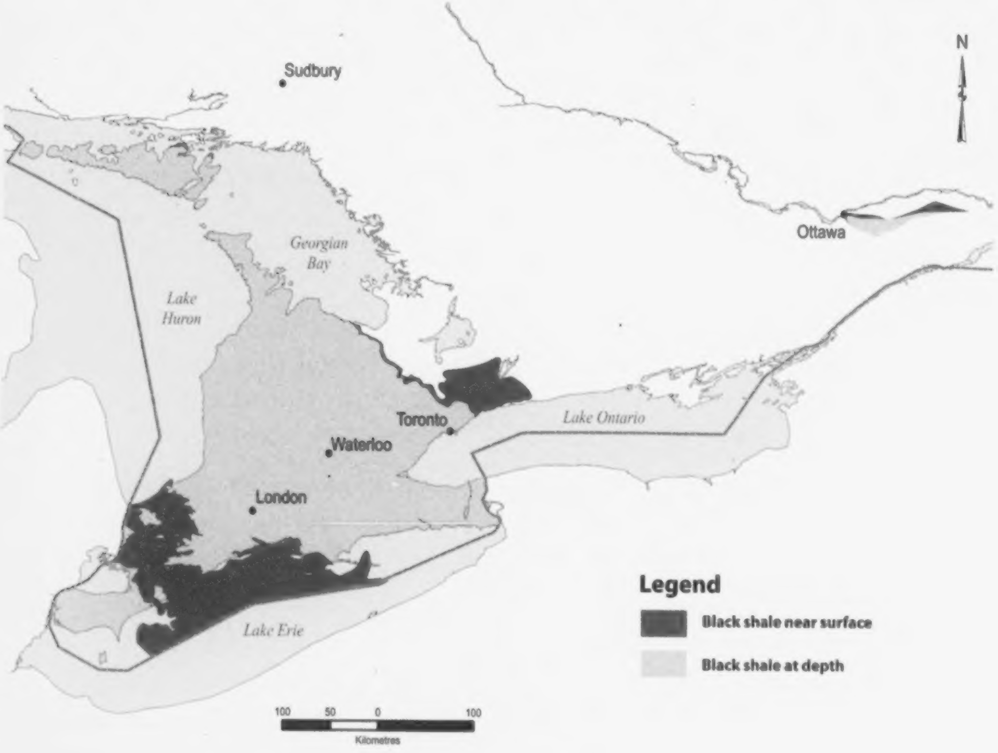

N
Sudbury
Ottawa
Georgian Bay
Lake Huron
Toronto
Lake Ontario
Waterloo
London
Lake Erie
Legend
Black shale near surface
Black shale at depth
100 50 0 100
Kilometres

Figure 6.1.1. Distribution of black shale with shale gas potential in Ontario. Note: Black shale is the term used to identify dark-coloured shale rock that is a potential source for natural gas. Black shale rocks typically contain 1 per cent or more of organic carbon. Source: Ministry of Natural Resources.

Extraction is typically performed using horizontal drilling to allow access to a large surface area, followed by hydraulic fracturing to extract the natural gas. Hydraulic fracturing, also referred to as "fracking," is accomplished by injecting large amounts of high-pressure fluid, propping agents and chemicals into the drilled wells. The high pressure used for fracking is designed to exceed the rock strength and crack the rock, while the propping agents (such as sand or other granular particles) hold the fractured rocks open and allow the previously trapped natural gas to enter the drilled well and be drawn to the surface for recovery. An aqueous slurry, containing chemical additives that vary depending on the rock formation and its depth, is used to optimize the stimulation process. A single well can require millions of litres of high-pressure water for proper hydraulic fracturing, and wells may require repeated fracturing. A schematic of this process is provided in Figure 6.1.2.

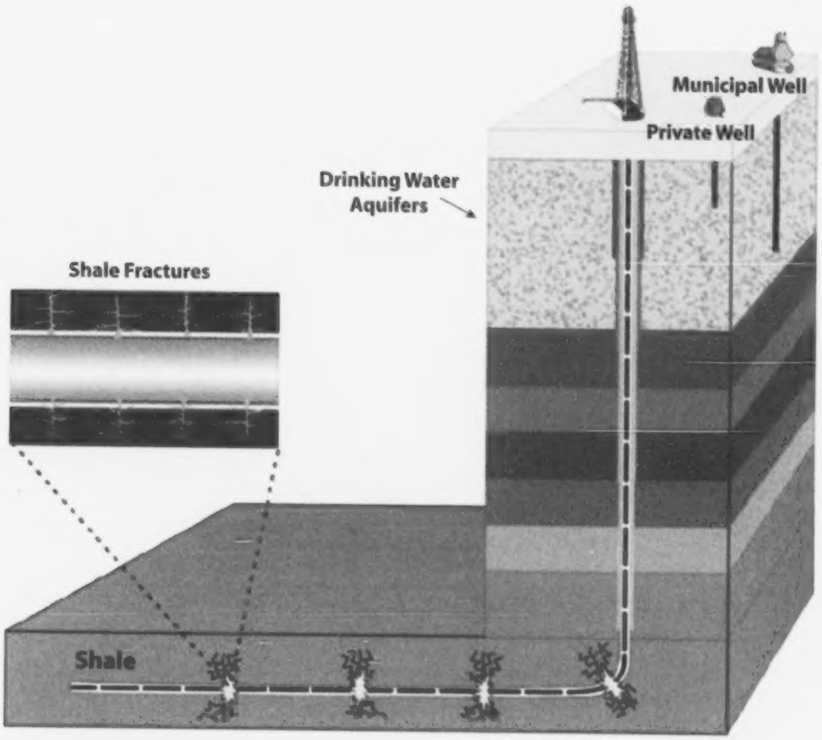


Figure 6.1.2. Shale gas fracturing ("fracking"), depicting both vertical and horizontal drilling. Source: U.S. Environmental Protection Agency.

Ontario has a long history of oil and gas production. In 1858, North America's first commercial crude oil well was established in Oil Springs, Lambton County. In 1889, the first commercial natural gas well in Ontario was drilled in the Essex County area. Since then, it is estimated that upwards of 50,000 oil and gas wells have been drilled; however, the Ministry of Natural Resources (MNR) has records for only 27,000 wells. In 2010, Ontario had a total of 92 commercial oil and gas producers operating 1,223 active oil wells, 1,214 active natural gas wells and 29 wells producing both oil and natural gas.

While it remains unproven whether Ontario has economically viable reserves of shale gas, one exploration well for natural gas in a shale formation has been drilled in Chatham. Due to insufficient natural gas volumes, the well was plugged without having completed the hydraulic fracture treatment. At least one oil and gas company has leased land in southwestern Ontario with the intention of producing shale gas.

Increased natural gas production would have some benefits for Ontario. Ontario's natural gas demand accounts for roughly 30 per cent of all Canadian gas consumption and western Canada supplies most of this demand. The use of natural gas in Ontario's power sector is expected to climb to nearly one-third of total provincial natural gas demand by 2020. This could have an impact on existing natural gas infrastructure, including pipelines and storage facilities. An increase in local production may help alleviate the potential strain on the existing supply.

Environmental Concerns

Although other jurisdictions have been extracting shale gas for several years, a number of environmental concerns have been raised.

Water Withdrawal Issues

For fracking, operators can choose to use either fresh water, deep formation waters (brine), or recycled fluids. Other hydraulic injection fluids, such carbon dioxide, nitrogen or a mixture of propane and butane are being examined as possible mediums. When water is used as the fracking fluid, either off-site surface water resources, nearby groundwater aquifers (accessed through drilled wells), or formation water (brine) can be used to supply the water for the project.

When water is used as the fracking agent, the amount of water needed depends on a variety of factors including porosity of the shale and its depth. An estimated 11 million litres of water demand is required for each fracturing procedure performed on a single well in areas of the U.S. and Canada. To continue producing economic quantities of shale gas, a well may need to be fractured *multiple times* during its lifespan to increase the rate of recovery. The large water withdrawals required for each fracking procedure could disrupt aquatic ecosystems, downstream wetlands and aquifer supplies.

As noted in previous ECO annual reports, some groundwater aquifers are tapped to their limit and many southern Ontario communities are experiencing increasing demands on existing natural resources. If a groundwater aquifer is to be used, an analysis of its other uses, such as nearby public and private water supply wells, is needed in order to determine if they would be negatively affected. This is especially important since the fresh water taken for fracking is considered "consumptive," in that it is not returned directly to the source. Water quality and quantity are inherently related. If the water quantity in the aquifer decreases as a result of the withdrawals for fracking, the water quality can be negatively affected because the concentration of pollutants or other contaminating materials in the water increases.

Water Contamination and Chemical Exposure Issues

As noted above, the liquid used for hydraulic fracturing consists of water, propping agents and chemicals. After fracking, a large amount of this liquid solution returns to the surface. Depending on a variety of factors, the composition of the liquid that resurfaces can change, as some of the chemicals are consumed during the process. The liquid that resurfaces can even contain naturally occurring radioactive materials, such as radium, thorium and uranium. This liquid requires proper handling by the developers, including wastewater treatment, reuse or waste disposal, to avoid impacts to the environment and human health.

Water contamination from the liquid that resurfaces can occur if there are improper or inadequate handling facilities at the surface (e.g., ineffective stormwater controls, faulty casing construction, operational errors or pit leakages). Human error can result in chemical spills on-site, releasing contaminants into the environment and causing a serious health hazard for those in the immediate vicinity. In some cases, potential contamination can pose a threat to drinking water sources – most groundwater sources used for drinking water are within 100 metres of the surface and Ontario's shale formations occur both at shallow depths (0-200 metres) and deeper depths (over 1,000 metres).

Although the chemicals used in fracking vary based on geographical region, general classifications of chemicals include: acids; bactericides; corrosion inhibitors; friction reducers; gelling agents; iron controllers; scale inhibitors; and surfactants. Of these, high levels of total dissolved solids, chlorides, surfactants, gelling agents and metals present in the water that resurfaces have been identified as posing the greatest environmental concern. Notably, dissolved iron and salt can occur naturally in the formation water.

The U.S. Environmental Protection Agency (U.S. EPA) is currently conducting a scientific study to investigate the possible impacts of fracking on drinking water. The agency notes there are serious concerns with fracking and its potential impact on "drinking water, human health and the environment, which demands further study." Initial results of this study are expected in late 2012.

Air Pollution

Large pits can be used to store the hydraulic fracturing fluid as it resurfaces from the ground, before it is transported for reuse, storage or treatment. The liquid can contain a variety of contaminants, such as volatile organic compounds or methanol, which can have an impact on local air quality. Methanol is a toxic substance that is considered a cumulative poison with chronic exposure. Methanol is relatively volatile, evaporating quickly upon exposure to air and forming high vapour concentrations. Methanol was the most widely used chemical for fracking in the U.S. between 2005 and 2009.

Areas with shale gas production have experienced an increase in truck traffic, from transporting equipment to removing waste. Some wells have reportedly required an average of 1,500 truck trips for water delivery to the site. Each trip contributes to increased local air emissions, and imposes additional wear and tear on local roadways.

The U.S. EPA has identified the use of diesel engines for compressors, generators, drill rigs and pumps as a potential source of emissions. Wells can take as long as five weeks of continuous drilling, which requires constant use of heavy equipment and machinery. Given the proximity of the shale gas potential in Ontario to densely populated areas, the equipment, traffic and noise pollution may pose a concern to local residents and ecosystems.

Pathways and Migration

During the fracking process, the new pathways created can form connections with pre-existing formations in the rock. If there are pre-existing vertical cracks, it could allow the fracking liquid and natural gas to migrate upward toward the surface.

Methane contamination of drinking water from shale gas development has been documented in areas of the U.S., which has also experienced an increase in the number of cases of human exposure to methane. High levels of methane, the main component of natural gas, can cause asphyxiation and create an explosive hazard in confined spaces. Methane is also highly flammable. Possible exposure pathways include direct leaks from poorly constructed wells or underground "communication" between different geological channels. Methane is also a potent greenhouse gas that has a global warming potential that is 72 times that of carbon dioxide over a 20-year time horizon.

Ontario has several hazardous waste disposal facilities located in southwestern Ontario, along with several historic deep well industrial waste disposal sites. The risks that shale gas developments pose to these wells may need to be assessed.

The Ontario Government and Shale Gas

In 2010, the government made amendments to the *Oil, Gas and Salt Resources Act* (*OGSRA*) that allow MNR to respond to technological advances, including shale gas extraction. These amendments did not introduce any new environmental protection measures relating to shale gas extraction, but a number of the existing environmental protection measures are likely to apply to this process. Under the existing framework, most of the required approvals are classified instruments and would, therefore, be posted on the Environmental Registry.

For example, the *Ontario Water Resources Act* (*OWRA*) requires individuals taking more than 50,000 litres of water per day to obtain a Permit to Take Water (PTTW) from the Ministry of the Environment (MOE). Permit holders record data on the daily quantity of water taken and report this information annually to MOE. The *OWRA* also regulates any discharges of wastewater as sewage works. Also, the *Environmental Protection Act's* approvals process would apply to any emissions to air or production of solid wastes from shale gas operations. While the existing regulatory framework, such as it is, would apply to shale gas extraction, it may not be adequate to fully protect the natural environment from all of the unique environmental issues of shale gas extraction.

ECO Comment

The *OGSRA* provides MNR with authority over licences or permits relating to the establishment, operation and plugging of a well. This authority could be applied to address environmental concerns related to these aspects of shale gas exploration and development. Therefore, a co-ordinated approach between MNR and MOE would be a minimum requirement to ensure all environmental aspects are properly examined if hydraulic fracturing operations are to commence in Ontario. Areas that have seen a great amount of commercial interest, such as New York and Quebec, are conducting extensive environmental assessments before production is allowed to proceed. If economically viable reserves of shale gas are confirmed in Ontario, MOE and MNR must ensure that the regulatory framework is sufficient to protect the natural environment and water resources from potential environmental effects.

Given that MNR does not have records for an estimated 23,000 historic oil and gas wells, interaction with pre-existing man-made wells is a serious concern. Evaluation of fracturing in shale rock depends on good knowledge of the density of the rock, as well as any pre-existing faults in the area. Therefore, it is critical to have information on the location of faults, nearby wells and underground waste disposal facilities in the area, as well as general rock characteristics.

While the prospect of a new and plentiful domestic energy resource is appealing, the ECO notes that associated environmental damage could outweigh the energy benefits of increased natural gas supply. Any future development of Ontario's shale gas resources must be undertaken with the public assurance that the cumulative effects of such development do not have unintended consequences. Given the close proximity of Ontario's shale formations to groundwater supplies, such development must be cognizant of the reality that, once groundwater is contaminated, remediation may be prohibitively expensive.

Recommendation 10:

The ECO recommends that MNR and MOE review and publicly report on the sufficiency of the regulatory framework to protect water resources and the natural environment from shale gas extraction.

For ministry comments, please see Appendix C.

6.2 The Roots of Sustainability: Engaging the Soil Carbon Solution

Introduction: Storing Carbon in Soils

Earth's atmosphere contains too much carbon. The massive burning of fossil fuels has dumped carbon – as carbon dioxide (CO_2) – into the atmosphere faster than nature can remove it. As a result, scientists warn of long-term impacts due to changing temperature and moisture levels, including (but not limited to): more frequent and severe droughts and extreme weather events; loss of freshwater supplies; rising ocean levels; and increasing threats to natural ecosystems and agriculture. Current volumes of atmospheric carbon pose a big problem.

Soils, on the other hand, contain too little carbon. Soil organic matter (SOM) is derived from the secretions and remains of plants and animals and is composed of about 57 per cent carbon. SOM has been decreasing since the beginning of agriculture more than 10,000 years ago. The advent of modern agricultural and soil management methods has exacerbated this problem – the world's farmlands are estimated to have lost between 30 and 75 per cent of their original carbon. Conventional tilling releases carbon to the atmosphere; using inorganic fertilizers (rather than manure or compost) reduces the rate at which carbon is replaced; and leaving soils exposed to wind and rain increases erosion. Soils need organic matter in order to remain fertile, and people need fertile soils to produce food. Too little SOM is a big problem.

These two big problems, however, may share a common solution. Many soil scientists maintain that it is feasible to remove much of the extra carbon from the atmosphere and put it back into the soil, where it does more good than harm. To shed some light on this intriguing debate, the ECO looked at two basic components of the issue:

1. the overall benefits of increasing soil organic matter; and
2. the options potentially appropriate for use in Ontario.

Benefits of Increasing Soil Organic Matter

Sequestering carbon in soil removes it from the atmosphere and helps mitigate climate change. This is the most obvious benefit. Building soil organic matter, however, is worthwhile regardless of the climate change implications, since there are many other benefits that result from the subsequent improvements in soil health.

All healthy soils teem with life – over one-quarter of Earth's living species make soils their home. At the base of this soil food web are bacteria and fungi. These organisms are so numerous and diverse that within a single teaspoon of good soil there can be found thousands of bacterial species, including millions of individuals, and more than a hundred metres of microscopic fungal threads known as hyphae. This web of life – which in a typical farmer's field or woodland includes many other larger organisms, such as mites, beetles, earthworms and moles – performs many beneficial soil functions upon which all above-ground life depends.

Soil organic matter supports soil life by providing microbes with both habitat and nourishment. As SOM increases in soil, so do the number and variety of organisms in the food web. With this increased variety comes increased benefits, including:

» **Clean water:** Healthy, biologically diverse soils filter contaminants out of water, often reducing them to harmless by-products. In addition, healthy soils retain more nutrients, reducing the run-off of fertilizer and raw manure that pollutes rivers and lakes.

» **Reduced flooding:** SOM helps soils hold more water. This can reduce seasonal flooding because the soils "suck up" the water, rather than letting it run over the surface to flood inland areas. For instance, a 2 per cent increase in the SOM of the cultivated cropland around the Red River could provide 23 per cent of the water storage required to prevent flooding.

» **Increased agricultural productivity:** High-SOM soils require less irrigation and resist drought better than low-SOM soils. The higher numbers and diversity of beneficial microbes also help crops to resist diseases and pests, reducing the need for pesticides. Moreover, higher SOM levels increase yields – adding one tonne of carbon per hectare to a degraded soil increases wheat yield by 20 to 40 kilograms per hectare.

» **Enhancement of biodiversity:** SOM protects wildlife in at least two important ways. First, the reduced chemical run-off from farms results in less toxicity in the natural environment. Second, increased soil life provides a greater quantity and variety of food for the life above ground. This enhanced "food chain" can support more overall biodiversity.

Unfortunately, these soil functions are generally invisible to the casual observer and their benefits are taken for granted. For instance, when thinking of biodiversity loss, one tends to think of a decline in the number of larger, more visible species, such as birds and mammals, rarely considering the potentially negative impacts that human activities have on the myriad of microscopic soil species. Without this vital foundation, however, the complex food chain that is necessary to support high levels of diversity among plants and animals could not exist.

Methods of Increasing Soil Organic Matter

Both soil type and climate affect the efficacy of methods for increasing SOM, so it is not a "one-solution-fits-all" issue. Nevertheless, several recurring themes appear extremely relevant to Ontario.

Sustainable Agricultural Practices Generally Build Soil Organic Matter

One of the proven ways to build SOM is to farm organically. Although the reasons for this are not yet fully understood, it is likely because organic farming practices encourage soil biodiversity. For example, organic fertilizers function differently than inorganic or chemical fertilizers. Many of these substances (e.g., manure, seaweed, compost, etc.) add organic matter, but that is only part of the story. Plants can only take in nutrients that are dissolved in water. For the nutrients in organic fertilizers to be made available to plants, they must be first consumed by microbes. In turn, the microbes gradually release the nutrients in plant-available form, primarily in the root zone. Thus organic fertilizers strengthen the natural nutrient cycling process and increase microbial diversity. Commercial inorganic fertilizers, on the other hand, are already water-soluble. This means that they provide nutrients directly to the plants, by-passing much of the microbial participation. Moreover, recent evidence suggests that the readily available nitrogen in inorganic fertilizers encourages the growth of a more limited range of microbes (decomposer bacteria specifically), so that more of the remaining organic matter in the soil is converted to CO_2 and lost to the atmosphere.

The key is diversity. The higher levels of microbial diversity in organically managed soils build SOM through a variety of mechanisms. First, not all organic material added to soil degrades immediately; some is converted into a stable substance known as humus, which can remain in the soil for decades. This work is done more slowly by a variety of organisms, not simply the bacterial decomposers. Second, bacteria and fungi work together to build what are called soil aggregates, or tiny clumps of soil, which not only improve soil structure, but also protect any carbon trapped inside the aggregates from further degradation. The role of fungi appears to be particularly important. Studies have shown a direct correlation between the degree of soil aggregation and fungal abundance, as well as between both of these and the level of soil carbon. Finally, well-aggregated soil is less prone to compaction, which allows plant roots to grow deeper, thus sequestering more carbon at lower levels of the soil.

In the U.S., the Rodale Institute has been running a side-by-side comparison of organic and conventional agriculture for almost three decades and has demonstrated clearly that organic farming builds SOM. Over 27 years, a 30 per cent increase was recorded in organic plots compared to no significant increase over the same period in conventional plots.

Conventional farmers can also build SOM, without completely converting to organic methods. Options that have worked well in areas with soils and climate similar to Ontario include the use of cover crops, particularly green manures (i.e., the cover crop is incorporated into the soil while still green or shortly after flowering), and the use of well-designed crop rotations. The latter can be particularly effective if perennial grasses are included, a practice known as ley farming (see below). No-till or reduced tillage practices, on the other hand, do not seem to be effective for carbon sequestration in Ontario, possibly because of our relatively wet temperate climate. In general, however, the most effective method for building SOM in conventional farming is replacing some or all of the inorganic fertilizers with organic materials, such as manure or compost.

Energy from Biomass, if Done Right, Can Build Soil Organic Matter

The growing demand for green energy is creating a growing demand for organic materials (such as municipal food and yard wastes and agricultural residues) for use as fuels. However, as more organic residues are collected and converted into energy, Ontario's soils will lose a major source of organic matter. Fortunately, alternatives exist that can both produce energy and build SOM. Examples include anaerobic digestion, where residuals (such as manure and food wastes) are used to generate methane gas for power and the solid by-products can be applied directly to agricultural land or composted. Another example is called pyrolysis, where the waste is converted into bio-oils, gas and biochar.

Potential for building soil organic matter also exists with purpose-grown energy crops. Perennial grasses, such as switchgrass, can sequester carbon in soil even when the above-ground portion is regularly harvested. Their deep root systems are part of the story. The other part is that they encourage the growth of mycorrhizae, a class of fungi that co-exists in a symbiotic relationship with plant roots. Plants deliver up to 30 per cent of the carbon produced through photosynthesis to mycorrhizal fungi via root secretions. In return, the fungi provide plants with moisture and nutrients found in areas of the soil the larger diameter plant roots cannot penetrate. Much of the carbon stays in the soil, raising SOM levels and increasing soil fertility. Prior to the widespread adoption of inorganic fertilizers, farmers often included perennial grass pastures (leys) of several years duration in their crop rotations, in order to restore SOM and increase fertility. Perhaps the rise in demand for biomass energy could see that practice revived.

Compost and Biochar, Working Together, May be the Fastest Way to Build Soil Organic Matter

The ECO reported on biochar (charcoal made from biomass) in our 2009/2010 Annual Report and our 2011 Annual Greenhouse Gas Progress Report. Many people are excited about biochar's ability to sequester large amounts of carbon very quickly. It is comprised of a very high percentage of carbon (between 25 and 95 per cent, depending on original feedstocks) that is extremely resistant to degradation. This form can persist in the soil for centuries or longer.

Soil organic matter delivers many of its benefits by providing food for soil life, with the SOM gradually being consumed by microbes. Accordingly, management changes (e.g., additions of manure, cover cropping, etc.) have to be maintained indefinitely in order to sustain a higher SOM level. With biochar, however, the benefits to the microbes do not come from its consumption; rather, they come from its function as an ideal microbe habitat. The biochar is not consumed, which means that increases in SOM produced by one-time additions of biochar can last for extended periods. Moreover, because biochar provides such good living and working conditions for microbes, the microbe-mediated SOM-building processes described above are also enhanced.

Research on biochar and its value to agriculture is increasing rapidly all over the world, including Ontario. While still in the early stage, some research suggests that biochar works best when combined with well-made compost. This is probably because compost provides the nutrients and microbial inoculant necessary to charge the biochar, which has little nutrient content and no microbial life of its own. Biochar can also be used with inorganic fertilizers. Early research indicates that fertilizer requirements in conventional agriculture could be greatly reduced through the application of biochar, at the same time that SOM levels are increased.

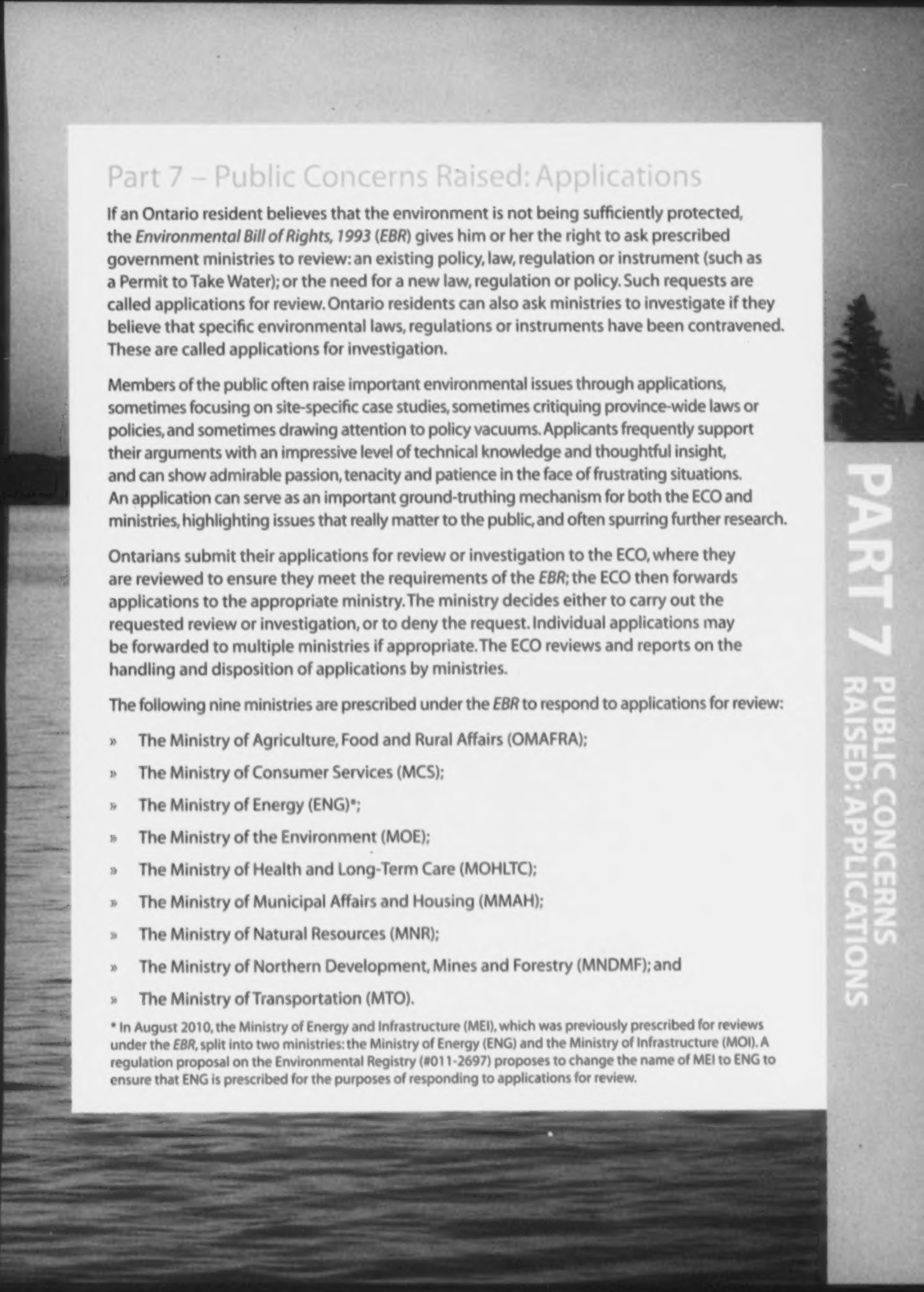
Finally, applying compost by itself also increases SOM. For every dry-weight tonne of compost applied to land, approximately one-half tonne of CO_2 is removed from the atmosphere. This has positive implications for municipal waste management, as well as for the ecological management of gardens, grass and turf, where compost could routinely replace inorganic fertilizers. The ECO discussed many other benefits of compost in our 2009/2010 Annual Report.

ECO Comment

Soil issues consistently fly beneath society's radar. Yet soil-related concerns, not the least of which is food security, are of fundamental importance. Ontario has a few programs designed to promote and financially support agricultural best management practices, such as cover cropping, composting, no-till and enhanced pasture management. In addition, the province recently embarked on a small project to investigate ways to accurately measure soil health, using a variety of physical, chemical and biological parameters. These measures constitute a modest beginning; however, they fall far short of the full engagement that is necessary. In particular, the government does not seem to be interested in developing the protocols necessary to allow Ontario farmers to be compensated for building the SOM that benefits society at large.

The ECO recognizes the technical, political and logistical challenges inherent in sequestering carbon in Ontario's soils. Some significant unresolved issues remain, particularly in the areas of measurement and permanence. Nevertheless, given the numerous environmental benefits that would accrue, and given the potential economic value of these increases to both Ontario farmers and to the public, the ECO strongly encourages the Ministry of Agriculture, Food and Rural Affairs to expeditiously institute a program to evaluate and then develop protocols for the most promising methods for increasing and enhancing organic matter in Ontario soils. This program would have the added advantage of providing the Ontario government with the framework and resources necessary to act on the recommendation made in the ECO's 2011 Annual Greenhouse Gas Progress Report to investigate and publicly report on the potential for soil carbon sequestration as a greenhouse gas mitigation strategy.

For ministry comments, please see Appendix C.



Part 7 – Public Concerns Raised: Applications

If an Ontario resident believes that the environment is not being sufficiently protected, the *Environmental Bill of Rights, 1993* (*EBR*) gives him or her the right to ask prescribed government ministries to review: an existing policy, law, regulation or instrument (such as a Permit to Take Water); or the need for a new law, regulation or policy. Such requests are called applications for review. Ontario residents can also ask ministries to investigate if they believe that specific environmental laws, regulations or instruments have been contravened. These are called applications for investigation.

Members of the public often raise important environmental issues through applications, sometimes focusing on site-specific case studies, sometimes critiquing province-wide laws or policies, and sometimes drawing attention to policy vacuums. Applicants frequently support their arguments with an impressive level of technical knowledge and thoughtful insight, and can show admirable passion, tenacity and patience in the face of frustrating situations. An application can serve as an important ground-truthing mechanism for both the ECO and ministries, highlighting issues that really matter to the public, and often spurring further research.

Ontarians submit their applications for review or investigation to the ECO, where they are reviewed to ensure they meet the requirements of the *EBR*; the ECO then forwards applications to the appropriate ministry. The ministry decides either to carry out the requested review or investigation, or to deny the request. Individual applications may be forwarded to multiple ministries if appropriate. The ECO reviews and reports on the handling and disposition of applications by ministries.

The following nine ministries are prescribed under the *EBR* to respond to applications for review:

- The Ministry of Agriculture, Food and Rural Affairs (OMAFRA);
- The Ministry of Consumer Services (MCS);
- The Ministry of Energy (ENG)*;
- The Ministry of the Environment (MOE);
- The Ministry of Health and Long-Term Care (MOHLTC);
- The Ministry of Municipal Affairs and Housing (MMAH);
- The Ministry of Natural Resources (MNR);
- The Ministry of Northern Development, Mines and Forestry (MNDMF); and
- The Ministry of Transportation (MTO).

* In August 2010, the Ministry of Energy and Infrastructure (MEI), which was previously prescribed for reviews under the *EBR*, split into two ministries: the Ministry of Energy (ENG) and the Ministry of Infrastructure (MOI). A regulation proposal on the Environmental Registry (#011-2697) proposes to change the name of MEI to ENG to ensure that ENG is prescribed for the purposes of responding to applications for review.

Applications for investigation may be filed for alleged contraventions under 18 different laws prescribed under the *EBR*, and for contraventions of any regulations under those laws. Applications for investigation may also be filed for alleged contraventions of prescribed instruments issued under 17 laws, administered by four ministries (MOE, MMAH, MNR, MNDMF) and one agency (the Technical Standards and Safety Authority of the Ministry of Consumer Services). Please see the ECO's website (www.eco.on.ca) for an up-to-date list of ministries, laws and instruments prescribed under the *EBR*.

In the 2010/2011 reporting year, the ECO reviewed 11 applications for review (one sent to six ministries) and 6 applications for investigation (one sent to two ministries). Of these 17 applications, ministries agreed to undertake one application for review and one application for investigation. Of the ten applications for review denied by ministries, the ECO disagreed with eight of these decisions, believing that the issues deserved scrutiny under the *EBR*. By contrast, of the five applications for investigation denied by ministries this year, the ECO agreed with all five of these decisions, finding that the ministries' rationales for denying the applications were all reasonable.

The following pages provide some highlights of selected applications received or reviewed in the 2010/2011 reporting year. The issues are very diverse, and include requests to: review and amend the *EBR* itself to better achieve its broad purposes; review the Oak Ridges Moraine Conservation Plan to provide meaningful protection to groundwater aquifers; review the regulations concerning industrial discharges of contaminants into surface water; review MNR's policies for addressing canoe portage routes on Crown lands; and investigate the alleged release of untreated sewage in provincial parks. Detailed reviews of all applications completed in 2010/2011 are found in Sections 5 and 6 of the Supplement to this Annual Report.

7.1 Reviewing the *Environmental Bill of Rights, 1993:* An Opportunity for Renewed Engagement

The passage of the *Environmental Bill of Rights, 1993* (*EBR*) introduced a new regime for environmental decision making in Ontario – one that involved increased public participation in and greater government accountability for environmentally significant decisions. However, the *EBR* has never undergone a formal review since coming into force almost 18 years ago. While the ECO's mandate has been expanded considerably, the *EBR* has otherwise remained largely unchanged despite calls for improvements to the legislation.

In December 2010, the ECO received an application requesting that the Ministry of the Environment (MOE) undertake a formal public review of the *EBR* to solicit input on key statutory and regulatory changes that would better achieve the broad purposes of the legislation.

As the ECO does not review applications in progress, we will reserve our comments on this application until MOE has completed its review. However, this application has prompted the ECO to reflect on how the *EBR* process is working as a whole and whether it is living up to the original vision of the Legislature. How well the *EBR* works is not just about what the Act and its regulations say; it is also about how the law is used, interpreted and applied by the ministries responsible for giving it effect.

Here, the ECO highlights the critical role that prescribed ministries play in the ultimate success of the *EBR* process, and considers the opportunity that MOE's review presents for renewing engagement – by the public and the government itself – in this unique and important legislation.

Reviewing the *EBR*

Over the years, the *EBR* has been scrutinized closely by its many stakeholders. In recent years, specific aspects of the legislation have been the subject of applications for review. To mark the *EBR*'s 10-year anniversary, the ECO undertook a review of the *EBR*, with input from a wide range of stakeholders, to consider the effectiveness of the legislation and potential reforms. Based on that review, in March 2005 the ECO submitted a Special Report to the Ontario Legislature including 16 recommendations that the ECO believed would "advance the purposes of the *EBR*, enhance the effectiveness of the Office of the Environmental Commissioner, and improve government decision making on environmentally significant proposals." To date, those recommendations have gone largely unfulfilled.

The application for review submitted to the ECO in December 2010 asserts that, after 17 years of "operational experience," it is time to evaluate the efficacy of the *EBR* and consider potential improvements to the legislation. The applicants note that, while there have been cases that demonstrate that "the *EBR* can be used effectively to inform and empower the public to protect the environment and conserve resources, particularly at the local level," there have also been problematic cases that point to the need for *EBR* reform.

The applicants identify ten key issues that they believe should be formally reviewed by MOE in an open and public review of the *EBR*:

1. Updating the purposes of the *EBR*;
2. The lack of environmental rights in the *EBR*;
3. Complying with meaningful Statements of Environmental Values;
4. Use, misuse and avoidance of the Environmental Registry;
5. Fixing the "EA Exception" under section 32 of the *EBR*;
6. Revisiting the leave test and funding for third-party appeals;
7. Enhancing the powers of the ECO;
8. Prescribing additional ministries and statutes under the *EBR*;
9. Improving responses to applications for reviews and investigations; and
10. Facilitating access to environmental justice.

In deciding to undertake the review, MOE agreed with the applicants that "the *EBR* is generally sound and it would not be appropriate to conduct a wholesale reconsideration of the Act in its entirety." The ministry stated that its review "will examine certain components of the *EBR*, as determined necessary by the Ministry after further deliberation and references to some of the matters raised in your application."

Putting the *EBR* to Work

Ministries that are prescribed under the *EBR* play a crucial role in ensuring that the *EBR* functions as the Legislature intended. How these ministries carry out their obligations under the Act bears directly on the effectiveness of the *EBR* process.

Every year, the ECO monitors and reports on ministry compliance with various aspects of the *EBR*. For example, the ECO reports on ministries' performance and progress in their use of the online Environmental Registry (e.g., use of the different types of notices, quality of the information posted, and time provided to comment) and ministry co-operation with the ECO's requests for information, among other things (for this year's evaluation, see Part 8 of this Annual Report). The ECO also reports on ministry handling of applications for review and investigation made under the *EBR* (for this year's review, see Sections 5 and 6 of the Supplement to this Annual Report). Although the *EBR* does not compel ministries to follow ECO recommendations, from time to time the ECO also reports on ministry implementation of our past recommendations.

The *EBR* requires each prescribed ministry to develop a Statement of Environmental Values (SEV) – a description of the principles that guide the ministry when making decisions that might significantly affect the environment. Concerned that many ministries were not giving due regard to their SEVs, the ECO undertook a project in our 2009/2010 reporting year to identify and promote examples of best practices for applying SEVs and integrating them into day-to-day ministry operations. Developing SEVs that more fully integrate the intent of the *EBR* and that include details about the ministries' SEV consideration process would make environmental decision making more accountable and transparent to the public. (For the ECO's analysis of SEV best practices, see Part 8.2 of the ECO's 2009/2010 Annual Report.)

The ECO also closely monitors the progress made in keeping the *EBR* current with new laws, regulations, instruments and other government initiatives. It is essential for these to be swiftly prescribed under the *EBR* so that the public is not deprived of the right to participate in environmentally significant decisions, file leave to appeal applications, and request *EBR* investigations and reviews. For the *EBR* process to function as intended, prescribed ministries – and the Ontario government as a whole – must keep the *EBR* in mind when passing new laws or making changes to ministries. While the ECO has observed some progress in expanding *EBR* coverage in recent years, many needed updates and changes remain unaddressed. (For this year's update on "Keeping the *EBR* in Sync with New Laws," see Part 8.1 of this Annual Report.)

The ECO also comes across more specific issues with *EBR* implementation in the course of our daily work. For example, on several occasions the ECO has expressed concern with the way ministries interpret and apply section 32 of the *EBR*, which excuses them from posting instrument notices on the Environmental Registry if the instrument is part of a project either approved or exempted under the *Environmental Assessment Act*. This year, the ECO noted a troubling trend in the way ministries use the Environmental Registry to consult on various environmental permits and licences (for one example, see Part 8.2.2 of this Annual Report).

Recipe for Successful Consultation

One of the most important roles of prescribed ministries under the *EBR* is their obligation to notify and consult the public about environmentally significant proposals using the Environmental Registry. The public's ability to meaningfully exercise their *EBR* rights is dependent on diligent implementation of this duty.

By and large, ministries are meeting or even exceeding the basic notification and consultation requirements of the *EBR*. However, year after year we continue to see some instances of poor compliance that frustrate the *EBR* consultation process: environmentally significant proposals not posted on the Environmental Registry or posted using the wrong type of notice; lack of information or clarity in notices; insufficient time provided to comment on complex matters; and failure to give notice of a decision promptly or at all. All of these problems hinder the public's ability to exercise their rights under the *EBR*, and point to a lack of respect by the responsible ministries for the legislation and its users.

Based on the ECO's observations and experience over the years, some key ingredients for successful *EBR* consultation include:

- Identifying a proposal as "environmentally significant" early in its development;
- Considering the ministry's SEV early and throughout the development of a proposal;

- Posting proposal notices on the Environmental Registry as early as possible in the decision-making process;
- Posting multiple notices for comment (i.e., multi-stage consultation) for the development of more complex or significant proposals;
- Ensuring that all Environmental Registry notices are written clearly, explain the environmental impacts of the proposal, include links to supporting documentation and include sufficient detail for members of the public to make informed comments on the proposal;
- Ensuring that the amount of time provided to comment on a proposal is appropriate, given the proposal's complexity and other circumstances;
- Giving meaningful consideration to all comments received during consultation before making an internal decision; and
- Promptly posting a decision notice once the ministry has made a decision, including a clear explanation of how the public's comments were considered and highlighting any changes that have been made since the proposal was posted.

The Environmental Registry is where many of the public's *EBR* participatory rights – the right to notice, the right to comment, and the right to seek leave to appeal – are given effect. Ministries must not lose sight of the underlying purposes of their *EBR* consultation duties or the consequences of inadequately performing them.

An Opportunity for Renewed Engagement

Ontarians should feel proud to have an *EBR*. It is a unique law that bestows a powerful set of rights on the public. After 18 years, though, it can be easy to take this for granted, to become complacent. The recently submitted application for review offers an opportunity for the government to renew engagement and interest in the *EBR* and what it represents.

If, as requested, MOE undertakes formal public consultation on potential *EBR* reform, Ontarians will have a long-awaited opportunity to provide input on updating and improving the legislation so that it can more effectively achieve its laudable goals.

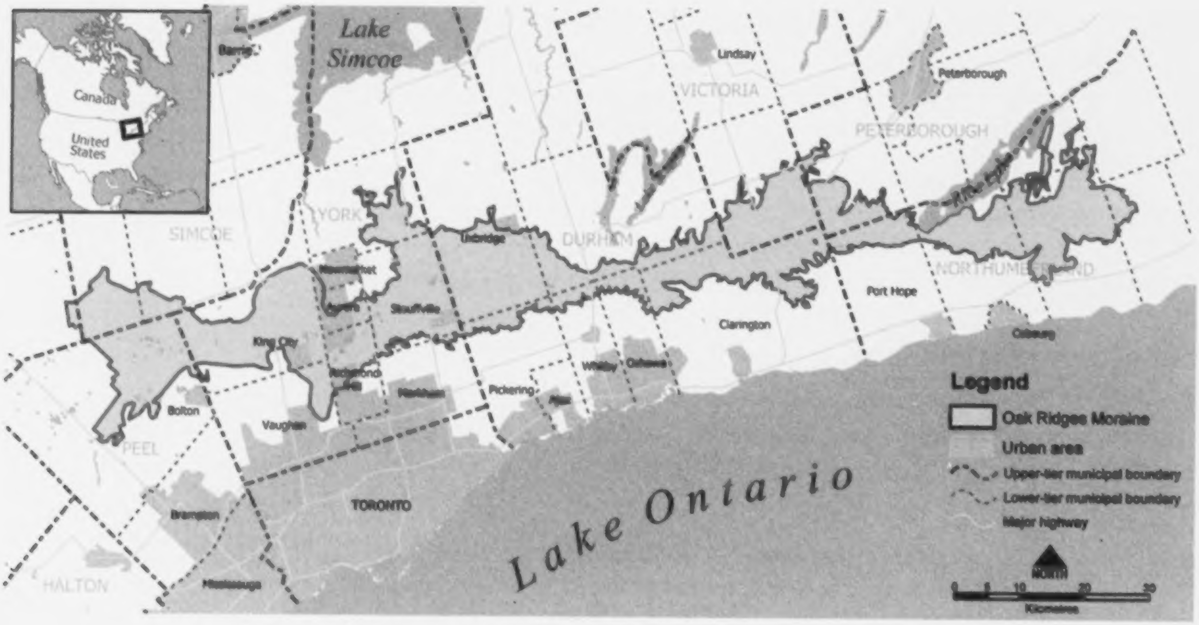
The ECO hopes that this review will also inspire MOE to examine how the *EBR* process is functioning within government, and to encourage prescribed ministries and their staff to review internal approaches to meeting their *EBR* obligations and consider whether they are advancing the purposes of the legislation. Given the record numbers of ministry staff that attended ECO-hosted *EBR* training sessions this past year, the ECO believes that ministry staff are eager to ensure that internal practices further the principles of the *EBR*.

With a strong *EBR* and a strong commitment from ministries to give it effect – by not only fulfilling their *EBR* obligations in a technical way, but by upholding the spirit and intent of the legislation – Ontario will continue to be a leader in public participation, citizen empowerment and government accountability for protecting and preserving the province's ecosystems for future generations.

For ministry comments, please see Appendix C.

7.2 Tapping into the Oak Ridges Moraine

The Oak Ridges Moraine (the "Moraine") is an environmentally significant landform that spans over 160 kilometres of rolling hills and river valleys from the Niagara Escarpment to Rice Lake. The Moraine is recognized as a regional groundwater recharge area, providing a source of groundwater to numerous aquifers, drinking water to over 250,000 people, and baseflow to the headwaters of 65 river systems. Urban development may negatively affect the quality and quantity of groundwater on the Moraine. In response to concerns about rapid and extensive development on the Moraine, the Ministry of Municipal Affairs and Housing (MMAH) created the Oak Ridges Moraine Conservation Plan (2002) to protect its ecological and hydrological integrity.


Canada
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Barrie
Lake Simcoe
Lindsay
VICTORIA
Peterborough
PETERBOROUGH
SIMCOE
YORK
Uxbridge
DURHAM
Rice Lake
Newmarket
Aurora
Stouffville
King City
Richmond Hill
Markham
Pickering
Ajax
Whitby
Oshawa
Clarington
Port Hope
NORTHUMBERLAND
Cobourg
Bolton
Vaughan
PEEL
Brampton
TORONTO
Mississauga
HALTON
Lake Ontario
Legend
Oak Ridges Moraine
Urban area
Upper-tier municipal boundary
Lower-tier municipal boundary
Major highway
NORTH
0
5
10
20
30
Kilometres

Figure 7.2.1. Map of the boundary of the Oak Ridges Moraine Area.

In 2010, Ontarians used the *Environmental Bill of Rights, 1993* (*EBR*) to file an application requesting a review of the Plan. The applicants assert that the Plan is unable to provide meaningful protection for groundwater aquifers within the Moraine. For example, a proposed development in Fraserville, outside of the Moraine, would pipe water from Millbrook, within the Moraine, without being subject to Plan policies (e.g., preparation of a watershed plan, water budget and water conservation plan). While most municipalities on the Moraine have begun preparing or completed their watershed plans, Peterborough County (where both towns are located) has not started.

Eight months after the application was submitted, the municipality decided not to proceed with the water diversion plan from Millbrook to Fraserville.

Ministry Response

MMAH denied this application on a number of grounds, including:

- The *Oak Ridges Moraine Conservation Act, 2001* does not provide the legislative authority to regulate the use of land outside of the Plan area;
- The Provincial Policy Statement, 2005 already includes policies that protect water resources, manage growth and promote efficient land use and development patterns; and

» The environmental impacts of taking water for development are already considered under the *Environmental Assessment Act* through Class Environmental Assessments or servicing master plans, under the *Ontario Water Resources Act* through Permits to Take Water (PTTWs), and under the *Clean Water Act, 2006*.

For the full text of the ministry decision, see our website at www.eco.on.ca.

ECO Comment

The ECO believes that MMAH's decision not to review the Oak Ridges Moraine Conservation Plan was unreasonable: the ministry failed to address the central concern of the applicants that Moraine groundwater is insufficiently protected from development outside of the Plan area. The applicants provided the example of the proposed Millbrook/Fraserville water diversion plan to illustrate a gap in provincial policy that allows development outside of the Oak Ridges Moraine to use Moraine groundwater. The ECO believes that failure to address this serious gap and protect vulnerable Moraine groundwater from development both within and outside of the Plan area will undermine the objectives of both the *Oak Ridges Moraine Conservation Act, 2001* and the Plan.

To protect the hydrological integrity of the Moraine, the Plan stipulates that municipalities shall prepare watershed plans, water budgets and conservation plans, and that major development proposals within the Moraine must conform to them. However, there are no such requirements for development proposals in areas adjacent to the Oak Ridges Moraine, even if Moraine water is used. The ECO believes that if an adjacent municipality seeks to take Moraine water, it should be required to adhere to a watershed plan, water budget and conservation plan.

The province regulates water takings through PTTWs, within and outside of the Oak Ridges Moraine. While the Ministry of the Environment (MOE) requires that applicants identify whether or not water will be taken from the Oak Ridges Moraine, it does not require applicants to show how the proposal meets Oak Ridges Moraine Conservation Plan policies, watershed plans, conservation plans or water budgets. The *Oak Ridges Moraine Conservation Act, 2001* requires that municipal land use decisions shall be consistent with the Plan; however, there is no specific requirement that instruments (such as PTTWs) issued by the MOE must be consistent with the Plan, watershed plans, conservation plans or water budgets. Given that the intent of the Plan is to protect water resources in the Moraine, this is a significant oversight. MMAH and MOE should make appropriate amendments to the Plan and PTTW policies to ensure that all PTTWs are consistent with the Plan and local watershed plans.

This application highlights the fact that MMAH does not actively oversee consistent implementation by municipalities, or monitor compliance with, or effectiveness of the Plan's policies. For example, while the Plan requires that Peterborough County prepare watershed plans for every watershed whose streams originate within the municipality's area by 2003, the county has failed to do so. MMAH's self-defined role mainly involves ensuring that municipal official plans and by-laws conform to the Plan, releasing technical guidance documents and mapping features. Monitoring the performance of land use policies is vital to ensure that they are meeting their objectives, especially the on-the-ground ecological and hydrogeological consequences of decision making. Genuine monitoring of performance can identify when objectives are not being met and amendments are required. Nearly ten years after the Plan's approval, MMAH has failed to monitor the effectiveness or implementation of Plan policies, leaving the job to environmental organizations, such as the Oak Ridges Moraine Foundation and Monitoring the Moraine.

In addition, the ECO is deeply troubled that MMAH has systematically denied every single *EBR* application that it has received since 1994. The Ontario Legislature has given Ontarians the right to request that the government consider changes to its policies when deficiencies come to light. When a ministry rejects every request over a 17-year period, it creates the valid perception that every application will be rejected no matter what issues are raised. Moreover, the ministry should not use scheduled reviews of its planning system, such as the review of the Oak Ridges Moraine Conservation Plan set to begin in 2015, as an excuse not to remedy current issues that may be exacerbated by waiting. This application was clearly a missed opportunity for MMAH to examine and address gaps within the Plan that threaten Moraine groundwater.

Recommendation 11:

The ECO recommends that MMAH amend the Oak Ridges Moraine Conservation Plan to ensure that Moraine groundwater is protected from development outside of the Moraine.

For a more detailed review of this application, please refer to Section 5.5.1 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.2.1 The Oak Ridges Moraine Foundation

In 2001, the provincial government established the Oak Ridges Moraine Foundation to fund activities related to the Oak Ridges Moraine (the "Moraine"), such as land securement, research, monitoring, public education and the Oak Ridges Trail. The government provided the foundation with an initial grant of $15 million for activities to support the Oak Ridges Moraine Conservation Plan. Since its inception, the foundation has leveraged an additional $36 million in funding and supported over 170 projects to protect, preserve and enhance the Moraine.

Despite these impressive achievements, the provincial government has not provided any additional money to the foundation. As a result, the foundation suspended its granting role in 2009 due to a lack of provincial funding. However, the foundation has remained active in its co-ordinating and collaborative roles. For example, in 2011, the foundation released a series of reports that assessed the effectiveness of the Oak Ridges Moraine Conservation Plan. Through the assessment, the foundation discovered that Moraine stakeholders feel that its initiatives in land securement, land stewardship and public education are essential to ensuring the success of the Oak Ridges Moraine Conservation Plan.

In 2011, the government provided $20 million to the Friends of the Greenbelt Foundation, in addition to its initial $25 million grant in 2005. While some of the Moraine is within the Greenbelt, the two foundations play two very distinct roles. Generally speaking, the Friends of the Greenbelt Foundation focuses on agriculture and tourism projects across the Greenbelt, whereas the Oak Ridges Moraine Foundation supports water quality and conservation land projects specific to the Moraine.

Given its accomplishments over the past decade, the Oak Ridges Moraine Foundation should be actively involved in the scheduled review of the Oak Ridges Moraine Conservation Plan in 2015. The ECO urges the provincial government to continue investing in projects that protect the Moraine and to support the foundation in its original roles.

For ministry comments, please see Appendix C.

7.3 Toilets in Parks: Peering into the Vault

With over 330 parks, covering 9 million hectares and attracting over 10 million visitors each year, Ontario's provincial park system provides an important recreational and natural heritage resource. Ontario Parks – the branch of the Ministry of Natural Resources (MNR) responsible for administering and operating Ontario's provincial parks – has the goal of ensuring that "Ontario's provincial parks protect significant natural, cultural, and recreational environments, while providing ample opportunities for visitors to participate in recreational activities." To support its visitors, many parks provide campgrounds, showers, flush toilets and vault privies (outdoor toilet facilities that retain sewage in a watertight receptacle).

In February 2010, two applicants requested that the Ministry of the Environment (MOE) investigate MNR for alleged contraventions of: the *Environmental Protection Act* (*EPA*); the *Ontario Water Resources Act* (*OWRA*); O. Reg. 129/04 – Licensing of Sewage Works Operators and Regulation 903 – Wells, made under the *OWRA*; and four Certificates of Approval (Cs of A) in several provincial parks. These alleged contraventions include: the failure to comply with the basic maintenance of sewage works; the discharge of untreated sewage into the natural environment; and the alteration of sewage works without appropriate approvals.

The applicants provided a detailed list of alleged contraventions, including the dumping of raw sewage from a sewage lagoon in Sibbald Point Provincial Park, the release of raw sewage from a sewage system in Lake Superior Provincial Park, and the failure of staff to comply with sewage-related Cs of A at Sibbald Point, Lake Superior, Silent Lake, Restoule, Driftwood, Algonquin, Fushimi Lake, and Sioux Narrows Provincial Parks. Supporting evidence included copies of MNR's 2008 environmental sanitation audit reports and photographs of vault privy inspections.

The applicants argued that MNR, as the owner of sewage works in provincial parks, is responsible for maintaining, altering and operating these systems according to applicable laws, Cs of A, operational policies and minimum operating standards in a manner that does not contaminate the environment with raw/untreated sewage. The applicants stated that although senior management at Ontario Parks had been informed of non-compliance issues through decades of environmental sanitation audits, these issues have remained unaddressed due to limited time, staff and money. Moreover, the applicants alleged that management edited draft sanitation audit reports to steer away from embarrassing issues concerning environmental and public health and safety. The applicants concluded that MNR is more interested in having favourable environmental sanitation audit reports generated than admitting/documenting that Ontario Parks cannot meet its mandate.

Ministry Response

MOE agreed to undertake the investigation and on September 29, 2010, MOE informed the applicants that it had completed its investigation, which involved: a review of the application, MNR records, and park operations; park inspections; and a review of district inspections conducted as part of MOE's ongoing compliance activities. Although MOE found that Ontario Parks has a comprehensive plan for reviewing the operations of its parks (including its sewage facilities), MOE's site inspections (summarized in the report entitled Ministry Findings in Relation to Alleged Contraventions at Twelve Ontario Parks) identified several issues of non-compliance, some of which were related to the applicants' allegations and others that were not.

MOE found that the most egregious issues raised by the applicants (e.g., the dumping and release of raw sewage into the environment) were either unfounded or had already been identified and addressed by Ontario Parks. However, issues of ongoing non-compliance that MOE did identify included: park staff being unaware of the location of a sewage tank; a sewage system being extended without a certification statement by a qualified person; the tile bed system for a comfort station operating without a C of A; and two park annual inventory lists not being submitted to MOE as required. The ministry noted that "at the time of inspections, while violations of ministry requirements were observed, there was no evidence of serious environmental impacts or immediate danger to public health and safety."

In response to the investigation's findings, MOE requested that specific parks address the observed issues of non-compliance. MOE indicated that all items of non-compliance would be pursued by a Provincial Officer to ensure timely compliance. Moreover, based on the inspections, MOE encouraged – but did not require – the inspected parks to undertake recommended actions to enhance their current practices.

For the full text of the ministry decision, see our website at www.eco.on.ca.

ECO Comment

Given the applicants' compelling evidence of possible contraventions, and this unusual situation in which the alleged contravenor is another provincial ministry, the ECO believes it was prudent of MOE to accept the application and conduct a transparent investigation. The ECO also commends MOE for conducting a thorough investigation. The ECO notes, however, that in some cases, MOE's conclusion that inspected sewage systems were functioning properly would have been more convincing had all the inspections been conducted when park septic systems were most stressed (i.e., during peak park capacity or at the end of the summer season). By inspecting questionable vault privies under a variety of conditions, MOE would be better able to gauge whether these systems operate properly throughout the summer.

The ECO is pleased that MOE committed to ensuring that issues of non-compliance are rectified, and recommended that several of the inspected parks enhance their current practices. Nevertheless, because the observed incidences of non-compliance could be symptomatic of a systemic problem across the province's parks, the ECO is disappointed that MOE's requested actions and recommendations resolve only the site-specific problems identified during this investigation. To ensure that similar issues are addressed elsewhere, the ECO believes that MNR should learn from this case and consider implementing MOE's recommendations on standardized maintenance, operation and inspection procedures across all provincial parks.

For a more detailed review of this application, please refer to Section 6.1.2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.4 The MISA Wastewater Regulations: A Review is Overdue

The Municipal-Industrial Strategy for Abatement (MISA) program is a group of nine regulations developed in the early 1990s under the *Environmental Protection Act* that regulate the industrial discharges of contaminants from prescribed industrial sectors into surface waters.

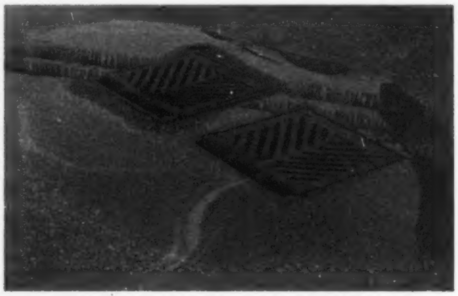
The MISA regulations set limits on the amounts of certain toxic substances that can be directly discharged into surface waters from Ontario's nine industrial sectors with large wastewater discharges: petroleum; pulp and paper; metal mining; industrial minerals; metal casting; organic chemical manufacturing; inorganic chemical manufacturing; iron and steel manufacturing; and electric power generation. Originally, the MISA program also was intended to regulate effluent from the over 400 municipal sewage treatment plants (STPs) operating in Ontario. However, by 1993, amid an economic recession, the Ontario government quietly shelved its plans to regulate STPs, and the municipal "M" part of MISA never came to be.

In January 2010, two applicants requested that the Ministry of the Environment (MOE) undertake a review of the province's MISA program. The applicants argued that such a review is long overdue given that the ministry has not re-evaluated the MISA regulations since they were first introduced over 15 years ago. The applicants set out a long list of deficiencies with the current MISA program. These are summarized below.

No Mandatory Pollution Prevention

The MISA program fails to establish a framework for preventing the generation of contaminants at the point of use or creation, but instead focuses entirely on end-of-pipe pollution controls.

No Periodic Review of Discharge Limits



The MISA discharge limits were set in the early 1990s based on the contaminant levels and "best available technologies economically achievable" at that time. MOE had stated that the limits "would be reviewed every five years with a view to establishing more stringent requirements." Over the past 20 years, technologies that were once unproven or too expensive have since become commonplace and affordable, yet MOE has never revised the MISA discharge standards to reflect these advancements. The outdated MISA standards provide no incentive for dischargers to improve their treatment processes over time.

No Regulation of Municipal Sewage

Municipal effluent is a significant source of pollution to surface waters in Ontario. Without a MISA regulation for municipal STPs (as was originally intended), there are no minimum standards for sewage effluent, and no consistency across the province with respect to the operating conditions, levels of treatment, quality of effluents or reporting requirements for wastewater plants.

No Regulation of Industrial Discharges into Sewers

The MISA program only addresses direct discharges to surface waters; it does not regulate industrial discharges that flow into municipal sewer systems. Instead, MOE relies on municipal sewer-use by-laws to control industrial discharges into municipal sewers. However, MOE does not require municipalities to have sewer-use by-laws; those by-laws that do exist vary greatly from one municipality to the next; and municipalities often lack the ability to enforce those by-laws. As most STPs are not designed to treat industrial wastewater, when industrial pollutants enter the sewers, they often pass through the STPs untreated into the receiving waters or are trapped in sewage sludges that may be applied to land.

No Consideration of Cumulative Effects

The discharge limits established in the MISA regulations do not take into account the existing conditions of a water body or the cumulative impacts of multiple facilities discharging into a watershed. As such, multiple facilities are permitted to continue discharging pollutants into bodies of water that are already degraded without any regard for the cumulative impacts of the multiple discharges. This failure to consider cumulative effects is contrary to MOE's Statement of Environmental Values (SEV), which requires the ministry to consider the cumulative effects on the environment in its decision making.

Numerous Contaminants Not Included

A number of MISA facilities are known to release toxic contaminants (such as nitrate, benzene, toluene, ammonia, arsenic, cadmium and lead, among others) into surface waters, but such releases are not regulated under MISA.

Ministry Response

In July 2010, MOE declined to undertake the review. MOE stated that while it "recognizes that some aspects of industrial effluent management have not been updated in recent years," the ministry is already engaged in several other initiatives that "will help address various aspects" of the concerns identified by the applicants, including:

- implementing the *Toxics Reduction Act, 2009*;
- developing policies to support the Canadian Council of Ministers of the Environment (CCME) Canada-wide Strategy for the Management of Municipal Wastewater Effluent;
- implementing MOE's "Modernization of Approvals" project; and
- reviewing ministry policies and programs for consistency with its SEV.

MOE concluded that, as all of these programs are underway, it is not necessary for the ministry to undertake a separate review of the MISA program. MOE noted, however, that it may consider reviewing the MISA program when these initiatives are completed.

For the full text of the ministry decision, see our website at www.eco.on.ca.

ECO Comment

The ECO is very disappointed that the ministry did not undertake this review. The applicants raised a number of valid and well-supported concerns regarding the current MISA program. In response, the ministry provided an unconvincing rationale for declining to undertake this review.

The ECO strongly disagrees with MOE's assertion that the ministry's current initiatives – namely, the *Toxics Reduction Act, 2009*, CCME's municipal wastewater strategy, the modernization of approvals project, and the ministry's SEV review – either individually or collectively, will help to address the concerns raised with respect to MISA.

The MISA program was a bold initiative in its day, involving a decade of work and a huge investment of time and resources. MOE's failure to review and maintain this program represents a squandering of this enormous investment.

Industrial effluents – whether discharged directly into surface waters or indirectly via sewage treatment plants – are a major source of toxic contaminants to Ontario's water bodies. MOE continuously states that reducing chemical discharges into the Great Lakes is a key priority for the ministry. Yet, MOE's decision not to review the industrial discharge limits under MISA seems counter to this goal. A review of the MISA regulations could identify opportunities for strengthening discharge limits based on new economically achievable technologies that have arisen over the past 20 years. Updated discharge limits could compel facilities to implement new cost-effective technologies and reduce chemical discharges into the Great Lakes and other water bodies.

Furthermore, the ECO has repeatedly expressed serious concerns about MOE's failure to adequately regulate municipal sewage discharges (see, most recently, Part 4.1 of our 2009/2010 Annual Report). Given this ongoing concern, it is a major disappointment that MOE declined to review the MISA framework with a view to considering the development of a much-needed regulation for municipal wastewater.

Finally, the ECO has long advocated the need to consider cumulative effects when regulating activities that can be harmful to the environment. To adequately protect receiving waters, the regulatory framework for permitting discharges of contaminants into a water body should include consideration of background levels, total loadings from individual plants, and overall loadings from all dischargers. Currently, neither the MISA regulations for

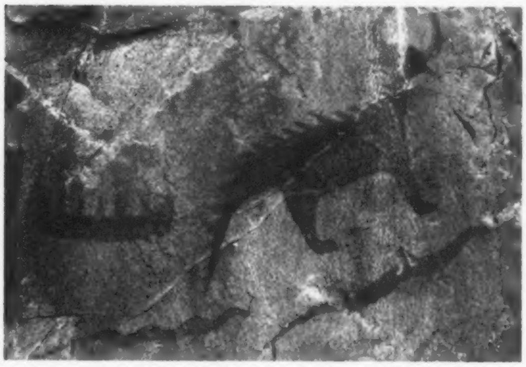
industrial discharges nor MOE's approach for approving sewage discharges takes into account the existing conditions of the receiving water or the cumulative impacts of multiple dischargers.

Recommendation 12:

The ECO recommends that MOE undertake a review and update of the province's outdated MISA program.

For a more detailed review of this application, please refer to Section 5.3.6 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.5 Up the Creek Without a Paddle: Confirming Historic Canoe Routes



People have been paddling canoes along the lakes and rivers of Ontario for hundreds of years – from the Aboriginal people and early European explorers to the recreational canoeists of today. Since canoes are a part of our history, it comes as no surprise that canoe and portage routes cover Ontario's landscape, connecting the Great Lakes, 250,000 inland lakes and countless rivers and streams.

In 2010, Ontarians filed an application under the *Environmental Bill of Rights, 1993* (*EBR*) requesting a review of the Ministry of Natural Resources' (MNR's) policies for addressing canoe portage routes in its management of Crown lands. The applicants assert that MNR is denying the existence of three historic canoe routes (Marjorie Lake, Pinetorch Creek, and Backdoor) in the Temagami Forest and Sudbury Forest Management Units (FMUs), because they are not included in the Natural Resources and Values Information System (NRVIS). NRVIS is a geospatial database used by MNR staff to collect, maintain and analyze land and natural resource data.

If MNR does not formally recognize the existence of a historic canoe route, it is not deemed a "value" and, therefore, the ministry is not required to protect it from the depredations of logging through the forest management planning process. "Values" are features, benefits or conditions of the forest that are linked to a geographic area, that are of interest from various points of view, and must be considered in forest management planning. Any person or party (e.g., MNR or other government staff, non-government organizations and the public) can identify values information, at any time, but MNR must confirm identified values.

The applicants also requested a review of canoe route provisions in the Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects (Resource Class EA). The applicants allege that MNR is using this Class EA to facilitate the removal of existing canoe routes from the landscape. For example, if MNR does not agree that it is an existing route (an identified value), then it is deemed a new route and any maintenance work would be subject to the Class EA process prior to issuance of a work permit. If MNR confirms that a canoe route previously existed, only a work permit would be required.

Ministry Response

MNR did not consider the application for review because it stated that the Resource Class EA is not subject to the *EBR* because it is not a prescribed instrument and the application for review provisions do not apply.

However, MNR stated that it considered the applicants' canoe routes and portages concerns and offered to work with the applicants in the development and approval of the Class EA and work permits for the Pinetorch, Marjorie Lake and Backdoor canoe routes and associated new portages.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO disagrees with MNR's rationale for denying this application; Class EAs are subject to the *EBR*'s application for review process. All Class EA parent documents are policies for the purposes of the *EBR*. Class EAs apply province-wide and they set requirements for proponents to follow when planning projects that could have an impact on the environment. Class EAs are approved by the Ministry of the Environment, a prescribed ministry under the *EBR*, and in some cases, they are written by prescribed ministries. Moreover, in 2003, MNR considered this particular Class EA as a policy by posting it on the Environmental Registry as a policy notice.

Canoe routes and portages in Ontario are important, not only as recreational values, but also as cultural and historical values. It is reasonable to believe that Aboriginal peoples used the same routes and portages that recreational canoe enthusiasts use today. From a geographic perspective, there may only be one logical route between two lakes, regardless of maintenance within the last 50 years. MNR tolerates many disturbances on Crown land, including forestry and mining, and these activities are often at conflict with canoeing activities. While the NRVIS database contains many landscape values and features, it is unreasonable for MNR to deny the existence of traditional canoe routes strictly because they are not in the ministry's database. In this reporting year, the ECO received two applications for review in which members of the public expressed concern and frustration with MNR's process for confirming identified values (i.e., canoe routes and cougar habitat) in forest management planning (for additional information, refer to Part 3.4 of this Annual Report). The ECO believes that MNR should ensure that traditional canoe routes and portages are protected because they are an important part of our cultural legacy.

For a more detailed review of this application, please refer to Section 5.6.4 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

7.6 Other Applications of Interest

In this Part, we have summarized a few of the many interesting questions raised by members of the public in various *Environmental Bill of Rights, 1993* (*EBR*) applications finalized in 2010/2011. For more detailed descriptions of all applications, see Sections 5 and 6 of the Supplement to this Annual Report.

Ammonia: An Alternative Transportation Fuel?

For decades, ammonia (NH_3) has been contemplated as an alternative fuel. The combustion of ammonia fuel does not result in greenhouse gas emissions; when produced using renewable resources, it is a completely carbon-free fuel source. Should the Ontario government promote ammonia as an alternative fuel source for transportation?

Fire Training Exercises: No Environmental Approvals?

The Ministry of the Environment routinely issues approvals to companies or individuals allowing them to legally discharge polluting substances into the natural environment. Fire departments are not required to hold such approvals when performing controlled burns of dwellings for training purposes, although this practice may emit dangerous chemicals into the air. Should fire departments be bound by the same restrictions as other Ontarians when it comes to environmental protection?

Waterpower Approvals

Concerned Ontarians, dissatisfied with monitoring undertaken by the operators of a hydroelectric facility, applied for an *EBR* investigation of its Permit to Take Water (PTTW). However, a PTTW is not the only instrument in place to protect ecosystem health where hydroelectric facilities exist; Water Management Plans (WMPs) aim to protect riverine ecosystems managed through waterpower facilities. WMPs are not classified instruments under the *EBR*, which prevented the applicants from filing an application for review of the facility's WMP. Should WMPs be classified under the *EBR* so that the public has enhanced participation rights in environmental decision making?

For detailed reviews of these applications, please refer to Sections 5 and 6 of the Supplement to this Annual Report.

Part 8 – The *Environmental Bill of Rights, 1993* in Practice

The provincial ministries play a critical role in achieving the goals of the *Environmental Bill of Rights, 1993* (*EBR*). For the *EBR* to be effective, the Ontario government must ensure that the Act is kept up to date by prescribing new ministries, laws and instruments that are environmentally significant. Furthermore, ministries that are prescribed under the *EBR* must uphold their obligations under the Act: to develop and consider Statements of Environmental Values; and to properly post notices on the Environmental Registry for environmentally significant acts, regulations, policies and classified instruments.

Each year, the ECO reviews and reports on how well the various prescribed ministries are meeting their obligations under the *EBR*. Part 8 of the ECO Annual Report includes a summary of these reviews, including a discussion of:

- the Ontario government's progress in prescribing new ministries and laws under the *EBR*;
- the quality of the notices posted by ministries on the Environmental Registry;
- failures of the prescribed ministries to post environmentally significant proposals on the Environmental Registry for public notice and consultation;
- the ministries' use of information notices;
- the ministries' use of exception notices; and
- the level of co-operation of the prescribed ministries in responding to ECO requests for information.

While the provincial government has the primary responsibility for achieving the goals of the *EBR*, the public also plays an important role in helping to achieve the Act's goals. The *EBR* provides several legal tools that enable Ontarians to enforce and protect their environmental rights. Part 8 includes a summary of how members of the public have used their appeal and other legal rights during this reporting year.

8.1 Keeping the *EBR* in Sync with New Laws and Government Changes

A major challenge facing the ECO and the Ontario government is keeping the *EBR* "in sync" with the evolving nature of government, including the frequent enactment of new laws, the occasional reorganization of government portfolios, and the creation of new ministries.

The ECO constantly tracks developments at the prescribed ministries and within the Ontario government as a whole, and encourages ministries to update the *EBR* regulations (O. Reg. 73/94 and O. Reg. 681/94) to prescribe new ministries, laws and instruments that are environmentally significant. While the ECO strives to ensure that the *EBR* remains up to date so that Ontario residents can continue to participate in all environmentally significant decision making, there continue to be serious delays in prescribing several ministries, laws and instruments under the *EBR*, as summarized below.

The ECO is concerned about such delays – they deprive the public of their rights to participate in environmentally significant decisions, to ensure that Statements of Environmental Values (SEVs) are considered, to request *EBR* investigations and reviews, and to seek leave to appeal prescribed instruments. Moreover, the ECO is unable to scrutinize non-prescribed decisions in the same manner as decisions made by prescribed ministries under prescribed acts, regulations and instruments.

In the 2010/2011 reporting period, the ECO observed some progress in expanding *EBR* coverage. In May 2010, the Ministry of the Environment (MOE) filed important changes to O. Reg. 73/94, prescribing: the *Lake Simcoe Protection Act, 2008*; the *Toxics Reduction Act, 2009*; and the *Food Safety and Quality Act, 2001*. MOE also made changes to O. Reg. 681/94, including prescribing certain instruments issued under the *Endangered Species Act, 2007* and the *Safe Drinking Water Act, 2002*. Further, in March 2011, MOE posted a proposal on the Environmental Registry (#011-2697) to prescribe the Ministry of Education for the purposes of the SEV and public consultation provisions under Part II of the *EBR*, and to prescribe most of the *Water Opportunities Act, 2010*, for the purposes of posting regulations.

The ECO commends the ministries on these developments. However, there are still a number of ministries, acts and instruments that remain unaddressed.

Gaps in *EBR* coverage (as of June 1, 2011)

Ministries and Agencies that Should be Prescribed under the *EBR*

» The Ministry of Aboriginal Affairs

» The Ministry of Community Safety and Correctional Services

» The Ministry of Education (proposal to prescribe posted on Registry in March 2011)

» The Ministry of Health Promotion and Sport

» The Ministry of Infrastructure

» The Ministry of Research and Innovation

» The Ontario Heritage Trust

Laws that Should be Prescribed under the *EBR*

» *Animal Health Act, 2009* (Ministry of Agriculture, Food and Rural Affairs [OMAFRA])

» *Building Code Act, 1992* (in full; already partially prescribed for provisions related to sewage systems) (Ministry of Municipal Affairs and Housing [MMAH])

» *Far North Act, 2010* (Ministry of Natural Resources [MNR])

- *Water Opportunities Act, 2010* (proposal to prescribe posted on Registry in March 2011) (MOE)

Instruments that Should be Prescribed under the *EBR*

- Instruments issued under the *Food Safety and Quality Act, 2001* (OMAFRA)
- Water management plans issued under the *Lakes and Rivers Improvement Act* (MNR)
- Nutrient management strategies and nutrient management plans issued under the *Nutrient Management Act, 2002* (OMAFRA)
- Instruments issued under the *Provincial Parks and Conservation Reserves Act, 2006* (MNR)
- Instruments issued under the *Public Lands Act* (MNR)

For more details, please refer to Section 8 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

8.2 Quality of Ministry Notices on the Environmental Registry

The Environmental Registry is only as good as the information it contains. The Environmental Registry usually provides the first point of contact for Ontario residents who want to participate in environmental decision making and therefore it is important that it is as user friendly as possible.

The *Environmental Bill of Rights, 1993* (*EBR*) sets out basic information requirements for notices that ministries post on the Environmental Registry. The ministries also have discretion about whether to include other information. Previous annual reports of the ECO have recommended that ministries use plain language and provide clear information in their notices on the Registry. Ministries should clearly state how their decision differs from the proposal, if at all, and explain how public comments were taken into account. All notices should provide a ministry contact name, telephone and fax number, as well as hyperlinks to supporting information whenever possible.

The ECO evaluates whether ministries have complied with their obligations under the *EBR* to ensure that ministries are held accountable for the quality of the information provided in Registry notices. This part of the Annual Report is also intended to provide information to help ministries improve the quality of future notices posted on the Registry to ensure that the public is able to participate fully in Ontario's environmental decision-making process.

Proposal Notices

Ministries are required to provide a brief description of each proposal posted on the Registry. The proposal notice should clearly explain the nature of the proposed action, the geographical location(s), and the potential impacts on the environment.

During this reporting period, descriptions of proposals for policies, acts and regulations generally met the basic requirements of the *EBR*. In general, the proposal notices provided concise and understandable explanations of the actions the ministries were proposing, although in some cases ministries could have done a better job providing more detail about their proposed actions. For example, the Ministry of Energy (ENG) posted two proposal notices to increase energy efficiency standards for appliances. However, the specific efficiency levels and the amount of energy savings that would result (and how these differed from previously regulated levels) were not described in the proposals, making it difficult for the public to understand the proposed changes. The ECO encourages ENG to improve the quality of such postings.

Most proposals for policies, acts, and regulations posted on the Registry in 2010/2011 provided good access to supporting information, including information for a contact person, as well as useful hyperlinks to supporting documents or related webpages. These hyperlinks are an excellent aid to the public; however, ministries should maintain these links so that the quality of the supporting information does not deteriorate over time.

The ECO is disappointed that ministries again this reporting year frequently failed to explain the environmental impacts of their proposals. This information is important to help the public make informed comments on the proposals.

Comment Periods

The *EBR* requires that ministries provide the public with at least 30 days to submit comments on environmentally significant proposals. Ministries have the discretion to provide longer comment periods, depending on the complexity and level of public interest in the proposal.

The ECO tracks the number of proposal notices that have public comment periods of 45 days or longer. This tracking is one method to broadly examine whether prescribed ministries are exceeding the minimum consultation requirements found in the *EBR*. This tracking also serves to indicate which ministries are making good use of the Environmental Registry through the number of postings that they use for their different initiatives. In the 2010/2011 reporting period, 90 per cent of the proposal notices for policies, acts and regulations were posted for public comment for 45 days or longer. Both MOE and MNR are to be praised for improving the length of public comment periods in recent years.

Table 8.2.1
Percentage of Proposal Notices for Policies, Acts and Regulations posted on the Environmental Registry for 45 days or Longer during the 2010/2011 Reporting Period (April 1, 2010 – March 31, 2011)

Ministry	Number of Proposal Notices	Proposals with a 45-day or Longer Comment Period	
		Number	Percentage
Agriculture, Food and Rural Affairs	2	1	50%
Consumer Services	0	0	n.a.
Economic Development and Trade	0	0	n.a.
Energy	6	6	100%
Environment	22	22	100%
Government Services	0	0	n.a.
Health and Long-Term Care	0	0	n.a.
Labour	0	0	n.a.
Municipal Affairs and Housing	6	5	83%
Natural Resources	43	39	91%
Northern Development, Mines and Forestry	3	1	33%
Tourism and Culture	0	0	n.a.
Transportation	1	1	100%
Total	**83**	**75**	**90%**

Adequate Time to Comment on Acts

It is important that prescribed ministries use the Registry to thoroughly engage the public when they propose new legislation. Multiple comment periods are typically necessary as the development of legislation progresses in order to provide sufficient time for members of the public to understand all the details as they evolve.

Far North Act, 2010

Shortly after the Premier launched the Far North initiative in the summer of 2008, the Minister of Natural Resources established a Far North Science Advisory Panel; this panel later released a series of recommendations to the government in a public report. The Minister also created a Far North Planning Advisory Council, composed of conservation groups and resource-based development industries, which completed a report in March 2009. The Ministry of Natural Resources (MNR) conducted more than 40 separate public outreach sessions, including meetings with First Nations.

In June 2009, MNR posted a proposal notice for Bill 191 (the *Far North Act, 2010*) on the Registry for a 63-day public comment period, receiving 64 submissions from the public. In August through October 2009, the Standing Committee on General Government also held seven meetings regarding Bill 191 with 55 organizations and individuals making presentations; many of these presentations also dealt with Bill 173 (the *Mining Amendment Act, 2009*). Bill 191 passed Third Reading in September 2010, was given Royal Assent a month later, and then proclaimed in February 2011. When Bill 191 was passed by the Ontario Legislature, 25 First Nations communities had begun community based land use planning in the Far North.

The *Far North Act, 2010* was a controversial piece of legislation. Its development was a difficult process for many First Nations, the Ontario government, and stakeholders. Community based land use planning is an ongoing and long-term process that likely will take more than a decade of hard work; it will be the subject of ongoing public consultations, and dialogue between the Ontario government and First Nations. The end result is unquestionably positive: the *Far North Act, 2010* is a step toward acknowledging and addressing the shared responsibility of the Ontario government and First Nations for planning and safeguarding the land and its peoples. The process of community based land use planning in the Far North has raised the bar for public consultation in the years ahead for all Ontarians. For the ECO's review of the *Far North Act, 2010*, please see Part 2.2 of this Annual Report.

Late Decision Notices and Undecided Proposals

When ministries post notices of environmentally significant proposals for policies, acts, regulations or instruments on the Registry, they must later post decision notices, including an explanation of how they considered public comments. However, sometimes ministries either fail to post decision notices promptly or do not provide the public with updates on the status of older, as yet undecided proposals. In those cases, the public is unable to tell whether the ministry is still actively considering the proposal, has decided to drop the proposal, or has implemented a decision based on the proposal while failing to post a decision notice. This reduces the effectiveness of the Registry, and may make members of the public reluctant to rely on it as an accurate source of information.

Additionally, posting late or no decision notices for instruments can hinder the appeals process. The *EBR* gives Ontarians 15 days to apply for leave to appeal certain instruments after a decision has been posted on the Registry. Once the Environmental Review Tribunal grants leave to appeal an instrument the permit is automatically suspended. A timely decision notice provides the public and the instrument holder with greater certainty as to whether leave to appeal an instrument will be sought. At the end of the 2010/2011 reporting year, over 500 appealable instrument proposals more than two years old were on the Registry; over 200 of them were more than four years old.

The ECO periodically makes inquiries to ministries on the status of proposals that have been on the Environmental Registry for more than a year and suggests they post either updates or decision notices.

8.2.1 Open for Business, Closed to Public Comment: Omnibus Legislation and the *EBR*

Sometimes the government will introduce a bill in the Legislature that proposes to enact, repeal or make changes to a number of different laws. These "omnibus bills" can be an expedient way for the government to make law. However, the practice of combining multiple, complex and sometimes unrelated matters into one bill has been criticized as undermining the usual process of parliamentary legislative debate. Omnibus bills that make changes to Ontario's environmental laws can also pose particular challenges to the *Environmental Bill of Rights, 1993* (*EBR*) process.

Bill 68 – *Open for Business Act, 2010*

In this reporting year, the Ontario government introduced and passed Bill 68, the *Open for Business Act, 2010*. This 166-page bill made changes to approximately 50 statutes affecting 10 ministries. Introduced by the Minister of Economic Development and Trade, Bill 68 was intended to "support economic growth and foster simpler, better and faster interaction between government and business." In particular, the bill made many environmentally significant amendments to acts administered by the Ministries of the Environment (MOE), Natural Resources (MNR) and Agriculture, Food and Rural Affairs (OMAFRA), all of which are prescribed under the *EBR*.

EBR Challenges

Under the *EBR*, the Ministry of Economic Development and Trade (MEDT), as a prescribed ministry, should have used the Environmental Registry to give notice to the public of the environmentally significant matters contained in Bill 68. It did not do so.

MOE, MNR and OMAFRA were also responsible for ensuring that the public was consulted on environmentally significant changes that Bill 68 would make to their respective statutes. However, only after the ECO wrote to remind MOE and OMAFRA of their *EBR* obligations did those ministries post proposal notices on the Environmental Registry, over a month after Bill 68 was introduced (for more information about these "unposted" decisions, see Sections 1.1.1 and 1.3.1 of the Supplement to this Annual Report). While both ministries provided an opportunity for the public to submit comments, the delay in posting the proposals reduced the likelihood that the public's comments would be received in time to be meaningfully considered before the Bill passed.

By contrast, MNR gave notice on the Registry – without prompting by the ECO – very shortly after Bill 68 was introduced. However, the ministry posted just one proposal notice, using a generic title, to consult with the public about significant environmental amendments to four separate MNR statutes affected by Bill 68. Ideally, MNR would have posted and consulted on each proposal separately – or at least named each of the acts affected in the proposal title – to ensure that the public was fully aware of the proposed changes and had sufficient time to comment on each one.

More generally, the ECO is concerned that combining so many different matters in this omnibus bill may have allowed some significant changes to pass into law with minimal scrutiny. For example, if amendments to the *Oil, Gas and Salt Resources Act* applicable to shale gas exploration and extraction had not been rolled up in Bill 68, that proposal may have garnered considerably more public interest. As a stand-alone bill, it would also have received a more focused debate and dedicated vote in the Legislature. For more information about shale gas, see Part 6.1 of this Annual Report.

A Recurring Problem

The ECO has long expressed concerns about the use of omnibus legislation to reform environmental laws. As far back as 1996, the ECO recommended that omnibus-style legislation only be used for housekeeping matters. Nevertheless, the Ontario government has continued to use omnibus bills to make substantive changes to the province's environmental laws, and the ECO has continued to identify problems with this approach.

In particular, the ECO has found that it has had to remind some ministries to give notice of environmentally significant amendments when they are contained in omnibus bills. A prescribed ministry that introduces an omnibus bill, such as MEDT, must remember to consider the *EBR* implications of including any environmentally significant matters in the bill. When the ministry introducing an omnibus bill is not prescribed under the *EBR* (e.g., Ministry of Finance, Ministry of the Attorney General), which is often the case, it becomes even more important for prescribed ministries to ensure the public is consulted on any environmentally significant changes to their legislation that are proposed in the bill.

Commenters have also complained that the number and variety of amendments proposed in some omnibus legislation make it more difficult to review and comment. Further, in one case, important environmentally significant amendments relating to brownfields were quickly passed into law – without the usual *EBR* consultation – by including them within a vast budget bill (section 33 of the *EBR* specifically exempts proposals that form part of a budget from the usual notice and consultation requirements of the *EBR*).

Omnibus legislation can pass through the Legislature relatively quickly – sometimes too swiftly to allow for a 30-day comment period on the Registry. The ECO has reiterated on several occasions that ministry staff should explain in the Registry notice when consultation may be truncated due to the legislative timetable. Early, multi-stage consultation using the *EBR* could also ensure the public has sufficient time to review and comment on proposals and for the ministry to consider those comments before making a final decision.

Proceed With Care

At best, using omnibus legislation to amend environmental laws complicates the *EBR* process. At worst, it can obstruct the public's right to participate in environmental decision making. Environmentally significant decisions must be made in a transparent and accountable manner. The ECO urges prescribed ministries to ensure that any environmentally significant proposals included in omnibus bills undergo the same degree and quality of notice and consultation on the Environmental Registry that would occur if those proposals were contained in stand-alone bills.

For ministry comments, please see Appendix C.

8.2.2 Don't Leave Them Hanging: *ESA* Instrument Proposals on the Environmental Registry

As of July 1, 2010, certain permits and agreements issued pursuant to the *Endangered Species Act, 2007* (*ESA*) were classified as "instruments" under the *EBR*. This includes permits that allow otherwise prohibited activities, such as the killing of species at risk or the destruction of habitat, to occur in particular circumstances. Being classified under the *EBR* means that the Ministry of Natural Resources (MNR) is required to give notice to and consult the public on the Environmental Registry when it is considering a proposal to issue these types of instruments. Once it has made a decision whether to issue or deny an instrument, the ministry must promptly notify the public of its decision.

In March 2011, the ECO observed that although MNR had posted 16 proposal notices for instruments under the *ESA* in the eight months since they were classified, no instrument decision notices had yet been posted. On enquiry to MNR, the ECO learned that of the 16 proposals posted, MNR had in fact issued permits (i.e., made decisions) in 10 of those cases. Even though several of those permits were issued as early as October and November 2010, MNR had not yet posted decision notices to inform the public of any of its decisions.

Under the *EBR*, ministries are required to give notice on the Registry "as soon as reasonably possible after a decision is made whether or not to implement a proposal for an instrument." The ECO was distressed to discover MNR's wholesale disregard for this obligation as it relates to *ESA* instruments. MNR left the public – and the ECO – hanging, unsure whether the proposed permits were issued, denied or still pending. Members of the public who made the effort to comment on those instrument proposals were being deprived of their right to know what effect their participation had on the ministry's decision. Given that the heart of the matter is about deciding whether an applicant may willfully harm one or more species at risk and/or their habitat, transparency by MNR is of the utmost importance.

Failing to post a decision notice promptly (or at all) frustrates the role of the Registry as an accurate and up-to-date source of information about environmentally significant government decisions. It may also erode the public's confidence in MNR's consultation process and discourage the public from exercising their rights to participate in future decision making.

The ECO was therefore pleased to observe that, soon after we made our enquiry, MNR started posting decision notices promptly for nearly all newly issued *ESA* permits. MNR also posted a notice on the Environmental Registry in late April 2011 (#011-2842) for a proposed Submission Standards policy for certain *ESA* permits. The draft policy includes MNR's commitments to notice and consultation – and the posting of decision notices – on the Registry. However, as of May 1, 2011, MNR had yet to post decision notices for many of the earlier *ESA* permits. The ECO urges MNR to clear this backlog without delay and to continue to post decision notices as soon as possible after new *ESA* instrument decisions are made, as mandated by the *EBR*.

For ministry comments, please see Appendix C.

8.2.3 Considering Statements of Environmental Values in Instrument Decision Making

In June 2008, the Ontario Divisional Court ruled that ministries prescribed under the *Environmental Bill of Rights, 1993* (*EBR*), must consider their Statements of Environmental Values (SEVs) – including such concepts as cumulative effects – when making environmentally significant decisions on instruments (see pages 143-145 of the ECO's 2008/2009 Annual Report).

In July 2008, the ECO wrote to four affected ministries – the Ministry of the Environment (MOE), the Ministry of Municipal Affairs and Housing, the Ministry of Natural Resources, and the Ministry of Northern Development, Mines and Forestry – outlining the implications of the court decision and noting that in order for the ECO to analyze ministry compliance with SEVs, the ECO must be provided with ministry SEV consideration documents for instrument decisions. It is the ECO's understanding that prior to this ruling, ministries that issue environmentally significant instruments (as outlined in O. Reg. 681/94 made under the *EBR*) generally did not prepare SEV consideration documents when making these decisions. The ECO therefore requested that these ministries review how they will respond to the Divisional Court decision and begin providing the ECO with SEV consideration documents for instrument decisions.

MOE, which issues the vast majority of prescribed instruments, has indicated that it requires time to develop appropriate procedures and train staff before incorporating these considerations into regular practice. By the ECO's 2009/2010 reporting year, however, MOE still did not produce an SEV consideration document for the sole instrument decision that the ECO reviewed in the Supplement to the ECO's 2009/2010 Annual Report (see Section 4.8). Three years after the Divisional Court decision, the ECO expects that all prescribed ministries have had more than enough time to start providing SEV consideration documents for instrument decisions. The ECO will, therefore, expect that ministries provide these documents for instruments that the ECO reviews in the 2011/2012 reporting year.

8.3 Reviews of Unposted Decisions

Under the *Environmental Bill of Rights, 1993* (*EBR*), prescribed ministries are required to post notices on the Environmental Registry to inform the public of environmentally significant proposals and to solicit public comment. Sometimes ministries fail to meet this legal obligation, and the ECO must make enquiries and report to the public on whether their *EBR* public participation rights have been violated.

During the 2010/2011 reporting period, a number of ministries had instances of non-compliance with the *EBR* notice and comment requirements. For a detailed description of all the unposted proposals and decisions reviewed by the ECO this year, refer to Section 1 of the Supplement to this Annual Report.

Highlighted below are two examples of instances where the ECO made enquiries of ministries about unposted proposals and decisions during the 2010/2011 reporting year.

Provincial Wildlife Population Monitoring Program Plan

In areas of forestry operations on Crown land, the Ministry of Natural Resources (MNR) carries out a Provincial Wildlife Population Monitoring Program with the purpose of providing long-term trend data on representative species, including moose, deer, caribou, black bear and forest birds. MNR's Declaration Order (Class Environmental Assessment [EA] Approval for Forest Management on Crown Lands in Ontario) requires the ministry to maintain a plan for this program – known as the Provincial Wildlife Population Monitoring Program Plan – and to update it no later than one year following the release of each Five-Year EA Report (last released in June 2009). The plan describes the priorities, activities and schedules for monitoring representative species.

MNR finalized its Provincial Wildlife Population Monitoring Program Plan in June 2010, but did not post the plan for public consultation on the Environmental Registry as required under the *EBR*. The ECO subsequently asked MNR:

- How the ministry determined the environmental significance of the policy;
- How the ministry's Statement of Environmental Values was considered during the policy's development; and
- Whether the ministry had undertaken public consultation during the development of the policy.

The ECO previously wrote to MNR about this same policy in summer 2004, when the first program plan was in development, indicating that it should be posted on the Registry as a policy proposal for public comment. At the time, MNR acknowledged the benefit of posting the program plan on the Registry and committed to the ECO to doing so in the future. However, MNR posted the plan as an information notice in December 2004 with a 90-day comment period and with no rationale for its decision to post an information notice in lieu of a proposal (for additional detail, see the Supplement to the ECO's 2004/2005 Annual Report).

In May 2011, MNR sent a formal response to the ECO, indicating it would be posting the 2010 plan on the Registry, as part of its review of the program, in fall 2011.

The ECO believes MNR's failure to post this policy on the Registry during its development is unacceptable. The public has the right to comment on this environmentally significant plan, and to learn how their comments were considered in the policy's creation. Wildlife population monitoring provides a key measure of Crown forest sustainability; this program plan applies to monitoring activities that will take place over a vast area, nearly one-third of the province. Among the environmentally significant changes in the plan is MNR's revised approach for the broad-scale monitoring of multiple species, which will affect how the ministry will collect and interpret data over the long term. Also, the plan no longer describes which species MNR will monitor in the Area of the Undertaking; in comparison, 43 species were monitored under the 2004 version of the plan, reduced from the 59 species set for monitoring at the inception of the program in 1998.

The ECO is extremely disappointed that the public did not have the opportunity to provide input on these important changes. Further, the ECO is disheartened that MNR failed to fulfil its promise to the ECO in 2004 that the program plan would be posted on the Registry as a policy proposal. The ministry has stated that it will propose amendments to its Declaration Order to explicitly require the plan to be posted for comment on the Registry. The ECO urges MNR to follow through with these amendments, to ensure future versions of this plan will be posted appropriately as a policy on the Registry as required under the *EBR*.

Regulatory Changes under the *Mining Act* Describing the Opening of Lands for Staking

On December 25, 2010, amendments to the general regulation (O. Reg. 113/91) under the *Mining Act* were published in the Ontario Gazette. The amendments set out the process for the opening of lands for staking in northern Ontario. Regulations under the *Mining Act* are prescribed for the purposes of the *EBR*; however, this regulation was not posted on the Environmental Registry.

The ECO asked the Ministry of Northern Development, Mines and Forestry (MNDMF):

- How the ministry determined the environmental significance of the regulation;
- How the ministry's Statement of Environmental Values was considered during the decision-making process that led to the development of the regulation; and
- Whether the ministry undertook any other public consultation on the development of the regulation.

MNDMF explained that it had considered its Statement of Environmental Values in its decision and had already undertaken equivalent public consultation under a previous policy proposal (Registry #010-8656, Ontario's New *Mining Act*: Workbook on Development of Regulations).

This workbook, posted for 130 days in December 2009, had posed a question to commenters regarding private surface rights. However, to date, no decision notice has been posted on the Registry for this workbook, so the public is still unable to observe if or how comments were incorporated into the final regulatory amendments.

The ECO is extremely disappointed in MNDMF's response. The ECO maintains that the regulatory amendments should have been posted as a regulation proposal notice on the Registry as explicitly required by the *EBR*. By MNDMF's logic, any regulatory amendments under the *Mining Act* that were open for discussion in the workbook need not be posted. However, no details on the specific amendments were included at that time and should have been open for public comment.

As the ECO has pointed out to ministries in the past, Registry postings can be used at multiple stages in the development of environmentally significant policies, acts or regulations – an option that may have been helpful in this case. The ECO urges the ministry to administer the *Mining Act* in a manner consistent with MNDMF's legal responsibilities under the *EBR*, and to post any further environmentally significant policies or regulations under this Act on the Registry, to provide the public with opportunity to comment.

For a more detailed review, please refer to Section 1 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

8.4 Use of Information Notices

In cases where ministries are not required to post a proposal notice on the Environmental Registry for public comment, they may still provide a public service by posting an "information notice" under section 6 of the *Environmental Bill of Rights, 1993* (*EBR*). These notices keep Ontarians informed of important environmental developments.

Ministries should use an information notice only when they are not required to post a regular notice for public comment. Significant differences exist between regular proposal notices posted on the Registry and information notices. With regular proposal notices, a ministry is required to consider public comments and post a decision notice explaining the effect of comments on the ministry's decision. The ECO then reviews the extent to which the minister considered those comments when he or she made the final decision. Each ministry must also consider its Statement of Environmental Values in the decision-making process. Moreover, third party appeal rights are only available for instruments if they are posted as regular proposal notices. Overall, regular proposal postings provide greater public accountability and transparency than information notices.

The ECO reviews whether or not ministries use information notices appropriately and considers whether notices are clear and complete. During the 2010/2011 reporting year, seven ministries posted a total of 114 information notices. However, for the purposes of reporting on year-to-year trends, the ECO does not include previously posted notices (as ministries often post updates on information notices) or notices that relate to forest management plans. In 2010/2011, ministries updated 25 previously posted notices and posted 11 new notices relating to forest management plans. Accordingly, prescribed ministries posted 78 new information notices in 2010/2011. (Refer to Section 2 of the Supplement to this Annual Report for a discussion of the appropriate use of information notices and for a complete list of information notices posted on the Environmental Registry in 2010/2011.)

Table 8.4.1
Number of New Information Notices, 2010/2011

Ministry	Notices
Agriculture, Food and Rural Affairs	1
Energy	1
Environment	20
Municipal Affairs and Housing	16
Natural Resources	32
Northern Development, Mines and Forestry	5
Transportation	3

Appropriate Use of Information Notices

During this reporting period, several ministries used information notices to inform the public about initiatives that are legally excepted from the *EBR* requirement to post regular proposal and decision notices. For example, the Ministry of Natural Resources (MNR) posted a notice informing the public of the results and recommendations of a major study on aggregate resources in Ontario. MNR committed to appropriate postings on the Environmental Registry for any future government response.

Inappropriate Use of Information Notices

On several occasions, ministries used information notices inappropriately during this reporting period, stating that the initiatives were not subject to the *EBR* for a variety of reasons. For example, MNR posted its proposed approach to regulate habitat for Woodland Caribou (forest-dwelling boreal population) under the *Endangered Species Act, 2007* as an information notice, although it was clearly a government proposal subject to regular notice requirements under the *EBR*. The ECO is extremely disappointed that MNR failed to meet its legal responsibilities under the *EBR*, particularly as habitat protection for this species at risk has been an issue of heated public debate. In failing to post a proposal notice, the ministry circumvented its *EBR* obligations to consider its Statement of Environmental Values and explain to the public how comments were considered. Further, as information notices are not subject to the ECO scrutiny a regular proposal notice affords, MNR further undermined public accountability and transparency. The ECO strongly urges MNR to adhere to its legal requirements under the *EBR* and post all environmentally significant proposals properly.

Ministry Decisions that were Not Prescribed

In 2010/2011 various ministries made extra efforts to inform the public by voluntarily posting environmentally significant decisions as information notices because they fall under acts, regulations or instruments that are not prescribed under the *EBR*. In April 2010, for example, MOE posted a notice informing the public about its intention to amend O. Reg. 455/09 made under the newly passed *Toxics Reduction Act, 2009*. The Act was not prescribed under the *EBR* until July 1, 2010. The ECO commends MOE for this action, but urges the ministry to post a notice explaining how the ministry considered the comments it received in finalizing the amendments to the regulation. This example reinforces the need for ministries to prescribe new environmentally significant laws under the *EBR* as quickly as possible.

For a more detailed review, please refer to Section 2 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.

8.5 Use of Exception Notices

In certain situations, the *Environmental Bill of Rights, 1993* (*EBR*) relieves prescribed ministries of their obligation to post environmentally significant proposals on the Environmental Registry for public comment.

There are two main instances in which ministries can post an "exception" notice to inform the public of a decision and explain why it was not posted for public comment. First, there is the "emergency" exception. Ministries are permitted to post an exception notice under section 29 of the *EBR* when the delay in waiting for public comment would result in danger to public health or safety, harm or serious risk to the environment, or injury or damage to property. Second, there is the "equivalent public participation" exception. Ministries can post an environmentally significant proposal as an exception notice under section 30 of the *EBR* when the proposal will be or has already been considered in another public participation process that is substantially equivalent to the requirements of the *EBR*.

During the 2010/2011 reporting year, four instrument exception notices were posted on the Registry, all by the Ministry of the Environment (MOE). In all but one case, MOE relied on the emergency exception. The ECO believes that all exception notices posted on the Registry in 2010/2011 were acceptable uses of the *EBR*'s exception provisions. For example, MOE extended a Certificate of Approval for an Ottawa company to remediate settling in part of a landfill, in order to avoid leachate break-out and structural problems with the site.

For more information, please refer to Section 3 of the Supplement to this Annual Report and a complete list of exception notices posted on the Environmental Registry in 2010/2011.

8.6 Appeals, Lawsuits and Whistleblowers

The *Environmental Bill of Rights, 1993* (*EBR*) provides Ontarians with several legal tools that enable them to enforce and protect their environmental rights, including:

- Appeal Rights;
- Public Nuisance Claims;
- Harm to a Public Resource Claims; and
- Whistleblower Protection.

Appeals

The *EBR* provides Ontarians with the right to apply for leave (i.e., permission) to appeal certain ministry decisions that relate to instruments prescribed under the *EBR*, such as decisions to issue permits, licences or approvals to companies or individuals. Ontario residents who wish to seek leave to appeal a decision must apply to the proper appeal body – generally the Environmental Review Tribunal (ERT) or the Ontario Municipal Board – within 15 days of the decision being posted on the Environmental Registry.

However, to be granted leave to appeal, applicants must first establish that they have an interest in the decision in question, and then satisfy the two-part test for leave to appeal set out in section 41 of the *EBR* by demonstrating that:

1. there is good reason to believe that no reasonable person could have made the decision; and
2. the decision could result in significant harm to the environment.

During the 2010/2011 reporting period, concerned members of the public sought leave to appeal five instrument decisions. All of the applications this year involved Certificates of Approval (Air) issued by the Ministry of the Environment under section 9 of the *Environmental Protection Act*.

One of the leave to appeal applications is described below. Details on the other appeal applications are provided in Section 7 of the Supplement to this Annual Report, and additional information can be found in the notices posted on the Registry, and on the ERT's website at www.ert.gov.on.ca.

8.6.1 Bait and Switch: MOE Attempts to Thwart Leave to Appeal

On November 26, 2010, the Ministry of the Environment (MOE) issued a Certificate of Approval (Air) ("C of A" or "approval") to J. & P. Leveque Bros. Haulage Limited (the "Instrument Holder") for a portable aggregate crushing plant. The C of A includes, among other things, conditions to address noise and fugitive dust generated from the operation of the approved equipment.

Although the C of A authorizes the use of the mobile equipment anywhere in Ontario provided the conditions of the approval are met, it appears the only location the equipment was ever intended to be used was in the Stanhope Pit area near Boshkung Lake, in the former Township of Stanhope, Municipality of Algonquin Highlands (the "Stanhope Pit site"). That area is described by local residents as a quiet, rural, recreational area with cottages, cottage resorts, summer camps and wilderness.

Public Consultation under the EBR

MOE posted its proposal to issue the C of A on the Environmental Registry (#011-0480) on July 2, 2010, and 15 comments were submitted to MOE. All of the commenters objected to the use of the crushing equipment at the Stanhope Pit site because they were concerned about the resulting noise and dust and the effect this would have on the environment, enjoyment of property, tourism and recreation in the area.

In its decision notice posted on the Environmental Registry on December 2, 2010, MOE reported that it had decided to issue the C of A, but specifically stated that the approved equipment could not operate at the Stanhope Pit site due to the separation distances required in a Class 3 acoustic area, as defined in the ministry's noise guidelines. No one sought leave to appeal MOE's decision to issue the approval.

Change in Acoustic Classification

However, shortly after MOE issued the approval, the Instrument Holder asked MOE to re-evaluate its acoustic classification of the Stanhope Pit site, asserting that the site is not a Class 3 (rural) acoustic area, but a Class 2 (mid-urban) acoustic area. Based on the separation distances set out in the C of A, the Instrument Holder would be authorized to operate the crushing equipment at the Stanhope Pit site if the site was re-classified as a Class 2 acoustic area.

MOE agreed with the Instrument Holder, and on March 2, 2011, the ministry re-posted the decision notice for the approval, explaining the change in acoustic classification and its effect on the Instrument Holder's ability to operate at the Stanhope Pit site.

Local Residents Seek Leave to Appeal

Shortly thereafter, a representative for the Boshkung Lake Property Owners' Association (the "Applicant") submitted an application under the *EBR* for leave to appeal MOE's decision. The Applicant challenged the re-classification of the Stanhope Pit site as a Class 2 acoustic area and the information used to support this change, and enumerated several grounds relating to negative effects of operating the crushing equipment at the Stanhope Pit site.

MOE Challenges Right to Seek Leave

MOE challenged the ERT's jurisdiction to consider the application for leave to appeal. MOE took the position that the application related to the ministry's decision to change the acoustic classification of the Stanhope Pit site, and that this decision is independent of the decision to issue the C of A and therefore not subject to leave to appeal under the *EBR*. MOE stated that it had not been obligated to update the Environmental Registry notice to reflect this change, but had done so voluntarily.

The ERT roundly rejected MOE's position, citing a number of facts indicating that MOE itself considered the application of the C of A conditions to the Stanhope Pit site to be "an integral part of the decision to issue the C of A." The ERT noted that concerned residents appear to have relied on MOE's reassurance that the conditions of the C of A prevented operation of the crushing equipment at the Stanhope Pit, and that MOE's argument that no leave to appeal right existed in relation to the updated decision "might … be seen as an attempt to defeat the appeal rights of residents who participated in the *EBR* process in good faith and failed to apply for leave in December in reliance on the MOE's original decision." The ERT therefore proceeded to consider the application.

Leave to Appeal Denied

On May 19, 2011, the ERT denied the Applicant's request for leave to appeal on the basis that she had not met the *EBR*'s two-part test for granting leave to appeal. The ERT reviewed the grounds raised by the Applicant relating to noise emissions, particulate emissions and run-off, and concluded that the Applicant had failed to establish the likelihood that no reasonable person could have made the decision to issue the C of A and allow operation of the aggregate crushing equipment at the Stanhope Pit site. Given its findings on this first part of the leave to appeal test, the ERT concluded that it was not necessary to consider the second part of the test (i.e., whether the decision could result in significant harm to the environment). Accordingly, the ERT dismissed the application for leave to appeal.

ECO Comment

The ECO is deeply troubled by MOE's approach to this application for leave to appeal. The ECO agrees with the ERT that it appears the application of the C of A to the Stanhope Pit site was an integral component of the Director's decision to issue the approval, and that the residents relied on MOE's reassurances in not seeking leave to appeal the original decision. While MOE acted transparently when it updated the instrument decision notice to inform the public that the C of A would now apply to the Stanhope Pit area, MOE's subsequent position at the ERT that no leave to appeal was available following this change was very unfair and curtailed the public's rights. Whether intentional or not, MOE's actions could certainly be perceived as a deliberate attempt to deprive the public of the opportunity to challenge the approval until it was too late. Such bait and switch tactics could cast serious doubt on the value of public participation under the *EBR* and the integrity of the *EBR* process itself.

Public Nuisance Cases

Before 1994 when the *EBR* came into force, claims for public nuisances in Ontario had to be brought by, or with leave of, the Attorney General. Since 1994, under section 103 of the *EBR*, someone who has suffered direct economic loss or personal injury as a result of a public nuisance that has harmed the environment can bring forward a claim without the approval of the Attorney General. No new lawsuits claiming public nuisance as a cause of action came to the ECO's attention during this reporting year.

The Right to Sue for Harm to a Public Resource

The *EBR* gives Ontarians the right to sue any person that is breaking, or is about to break, an environmental law, regulation or instrument that has caused, or will cause, harm to a public resource. To date, the only court action brought under the "harm to a public resource" provisions of the *EBR* for which notice has been provided to the ECO is a proceeding started in 1998 by the Braeker family against the Ministry of the Environment and Max Karge, an owner of an illegal tire dump.

Whistleblower Rights

The *EBR* protects employees against reprisals by employers if they report environmental violations in the workplace or otherwise exercise their rights under the *EBR*. The ECO is not aware of any whistleblower cases in this reporting year.

8.7 Ministry Co-operation with the ECO

The ECO and his staff rely on the co-operation of staff in Ontario's provincial ministries to carry out the mandate of the ECO. Ministerial co-operation allows the ECO to review the ministries' environmentally significant decisions in an efficient and timely manner.

The prescribed ministries and one agency each have one staff person designated as the *EBR* co-ordinator – responsible for ensuring effective *EBR* implementation. Most administrative interactions between the ECO and the ministries occur via these co-ordinators. The ECO also directly contacts ministry staff responsible for program delivery with specific, detailed information requests related to ministry programs.

Overall, the ECO notes that staff at prescribed ministries are generally co-operative including providing the ECO with:

- clear and prompt responses to enquiries;
- additional relevant information where available;
- regular updates for matters requiring a longer response time;
- responses to follow-up enquiries; and
- staff meetings to discuss matters of interest.

Ministries Commended for their Co-operation

During this reporting year, the ECO was pleased with the co-operation experienced with most prescribed ministries and their staff. The following describes particularly positive interactions.

Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

The ECO presented OMAFRA with a large and complex request for information regarding agricultural soil and the Great Lakes. The ECO was pleased with OMAFRA's prompt response to our request. The ministry provided the ECO with a contact person, and a detailed response by the proposed deadline. Furthermore, the ECO was impressed that OMAFRA took the initiative to arrange in-person briefings at our office and site tours related to specific environmental issues raised by the ECO.

Ministry of Tourism and Culture (MTC)

The ECO notes MTC's particularly prompt response to our information request regarding the ministry's Environmental Registry notices pertaining to Standards and Guidelines for Conservation of Provincial Heritage Properties. Within a week of receiving the ECO's information request, MTC scheduled an in-person meeting at the ECO to discuss this matter. The ministry met with the ECO and provided all requested information within two weeks of receiving the request.

Ministry of the Environment (MOE)

Throughout the reporting year, the ECO regularly interacts with the *EBR* office at MOE, as well as its staff. In 2010/2011, as in past years, the *EBR* office staff have been co-operative and provided helpful responses to ECO requests.

MOE staff were helpful in providing updates on several ECO research projects including cage aquaculture, Great Lakes, funding, shale gas and stormwater. The ECO also approached MOE's Drive Clean Office for information and documents related to MOE's regulatory amendments to the program. The ministry provided responses for two rounds of questions and forwarded all requested documents in a reasonable time. Furthermore, MOE staff promptly provided assistance to a request for comments submitted for a discussion paper on source protection plans.

Overall, the ECO continues to see an improvement in response times and co-operation from MOE.

Ministries with Poor Co-operation

While most ministries have been co-operative with the ECO, over the past reporting year there are a few noteworthy exceptions.

Ministry of Energy (ENG)

As discussed in Volume One of our 2010 Annual Energy Conservation Progress Report, the ECO was disappointed by the lack of co-operation it received from ENG, including requests for information required to fulfil the ECO's mandate to report on energy conservation efforts in the province.

ECO staff also note there were prolonged delays responding to ECO requests for information related to several decisions posted on the Environmental Registry including the Proposed Growth Plan for Northern Ontario and the Simcoe Area: A Strategic Vision for Growth. Emails were sent requesting documentation that the ECO requires to review these decisions, however, ENG did not respond. Phone calls were also exchanged without success. After approximately two months passed, the Environmental Commissioner intervened personally, at which time some of the information was received. However, four and seven months since first requested (respectively), ENG had still not provided the ECO with Statement of Environmental Values consideration documents for either notice.

Ministry of Municipal Affairs and Housing (MMAH)

During this reporting year, MMAH co-operation has been mixed. In one instance, a ministry staff member contacted with questions regarding an application for review of the Building Code responded promptly and provided an informative overview of the recent changes undertaken. However, in other instances, ECO staff noted that there were prolonged delays for information requested regarding several Environmental Registry decision postings. For instance, as of August 2011, information requested in May 2011 for five Registry postings had still not been received.

Appendix A – Summary of 2010/2011 ECO Recommendations

Recommendation 1:
(Part 3.1 – Ontario's Commercial Fisheries Policies)

The ECO recommends that MNR develop commercial fisheries policies, including an allocation policy, to increase transparency on how it manages Ontario's commercial fisheries.

Recommendation 2
(Part 3.2 – Recovery of Species at Risk: Government Responses Inadequate)

The ECO recommends that MNR ensure that government response statements clearly articulate the actions that the Ontario government will and will not take to protect and recover species at risk.

Recommendation 3
(Part 3.3 – Wolf Conservation in Ontario: The Disconnect Between Science and Policy)

The ECO recommends that MNR ban both the hunting and trapping (except by First Nations and Aboriginal peoples) of species at risk in all protected areas.

Recommendation 4
(Part 4.1 – Connecting the Green Dots: The Natural Heritage Reference Manual)

The ECO recommends that MNR develop a coarse-scale, overarching natural heritage system for southern Ontario.

Recommendation 5
(Part 4.2 – Rules for Source Protection Plans Now in Place)

The ECO recommends that MOE develop Great Lakes targets and ensure that Great Lakes policies are included in the source protection planning process.

Recommendation 6
(Part 4.4 – Lakeshore Capacity Assessment: Balancing Development and Water Quality in Cottage Country)

The ECO recommends that MOE update the Provincial Water Quality Objective for Total Phosphorus to reflect individual lake sensitivity and watershed-level cumulative effects.

Recommendation 7
(Part 4.5 – Stormwater: Our Neglected Headwaters)

The ECO recommends that MOE require stormwater management facility owners or operators to monitor and maintain all stormwater management infrastructure in Ontario.

Recommendation 8
(Part 4.6 – Before the Flood: Conservation Authorities' Vital Role in Land Use Planning)

The ECO recommends that MNR, in association with Conservation Ontario, review and update floodplain maps in Ontario in order to adapt them to impacts from climate change.

Recommendation 9
(Part 5.2 – Modernization of MOE's Approvals Framework)

The ECO recommends that MOE review and revise its inspection planning program and its Compliance Policy: Applying Abatement and Enforcement Tools (Policy F-2) to include an effective compliance and enforcement strategy specific to the registration process.

Recommendation 10
(Part 6.1 – Shale Gas and Hydraulic Fracking)

The ECO recommends that MNR and MOE review and publicly report on the sufficiency of the regulatory framework to protect water resources and the natural environment from shale gas extraction.

Recommendation 11
(Part 7.2 – Tapping into the Oak Ridges Moraine)

The ECO recommends that MMAH amend the Oak Ridges Moraine Conservation Plan to ensure that Moraine groundwater is protected from development outside of the Moraine.

Recommendation 12
(Part 7.4 – The MISA Wastewater Regulations: A Review is Overdue)

The ECO recommends that MOE undertake a review and update of the province's outdated MISA program.

Appendix B – Financial Statement

Office of the Auditor General of Ontario
Bureau du vérificateur général de l'Ontario

Independent Auditor's Report

To the Environmental Commissioner

I have audited the statement of expenditure of the Office of the Environmental Commissioner for the year ended March 31, 2011 including a summary of significant accounting policies and other explanatory information. The financial statement has been prepared by management based on the financial reporting provisions of the *Legislative Assembly Act.*

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of this financial statement in accordance with financial reporting provisions of the *Legislative Assembly Act*, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statement based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statement is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statement. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statement, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statement in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statement.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion, the financial statement present fairly, in all material respects, the expenditures of the Office of the Environmental Commissioner for the year ended March 31, 2011 in accordance with the financial reporting provisions of the *Legislative Assembly Act*.

Basis of Accounting

Without modifying my opinion, I draw attention to Note 2 to the financial statement, which describes the basis of accounting. The financial statement is prepared to meet the reporting requirements under the *Legislative Assembly Act*. As a result, the financial statement may not be suitable for another purpose.

Peall

Toronto, Ontario
September 22, 2011

Gary R. Peall, CA
Deputy Auditor General
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Office of the Environmental Commissioner

Statement of Expenditure
For the Year Ended March 31, 2011

	2011	2010
	$	$
Salaries and wages	1,995,218	1,462,332
Employee benefits (Note 4)	419,429	312,750
Transportation and communication	118,121	83,239
Services	1,175,075	1,102,276
Supplies	159,759	183,842
	3,867,602	3,144,439

Commitments (Note 5)

See accompanying notes to financial statement.

Approved

Environmental Commissioner

Office of the Environmental Commissioner

Notes to Financial Statement
March 31, 2011

1. Background

The Office of the Environmental Commissioner (Office) commenced operation May 30, 1994. The Environmental Commissioner is an independent officer of the Legislative Assembly of Ontario, and promotes the values, goals and purposes of the *Environmental Bill of Rights, 1993 (EBR)* to improve the quality of Ontario's natural environment. The Environmental Commissioner also monitors and reports on the application of the *EBR*, participation in the *EBR*, and reviews government accountability for environmental decision making.

2. Significant Accounting Policies

BASIS OF ACCOUNTING

The Office follows the basis of accounting adopted for the Office of the Assembly as required by the Legislative Assembly Act and accordingly uses a modified cash basis of accounting which allows an additional 30 days to pay for expenditures incurred during the year just ended. This differs from Canadian generally accepted accounting principles in that for example liabilities incurred but unpaid within 30 days of the year end are not recorded until paid, and expenditures for assets such as computers and office furnishings are expensed in the year of acquisition rather than recorded as capital assets and amortized over their useful lives.

3. Expenditures

Expenditures are paid out of monies appropriated by the Legislative Assembly of Ontario. Expenditures are reported net of recoverable sales tax which is recovered by the Office of the Assembly on the Office's behalf.

Certain administrative services are provided by the Office of the Assembly without charge.

4. Pension Plan and Post-retirement Benefits

The Office's permanent employees (and nonpermanent employees who elect to participate) participate in the Public Service Pension Fund (PSPF) which is a defined benefit pension plan for employees of the Province and many provincial agencies. The Province of Ontario, which is the sole sponsor of the PSPF, determines the Office's annual payments to the fund. As the sponsor is responsible for ensuring that the pension funds are financially viable, any surpluses or unfunded liabilities arising from statutory actuarial funding valuations are not assets or obligations of the Office. The Office's required annual payments of $144,673 (2010 - $115,647), are included in employee benefits expense.

The cost of post-retirement non-pension benefits were paid by the Ministry of Government Services and are not included in the statement of expenditure.

Office of the Environmental Commissioner

Notes to Financial Statement
March 31, 2011

5. Lease Commitments

The Office has a lease agreement with its landlord for its current premises expiring on February 28, 2018. The minimum lease payments for the remaining term of the lease are as follows:

	$
2011/12	127,600
2012/13	128,800
2013/14	141,800
2014/15	141,800
2015/16	141,800
2016/17 and beyond	271,700
	953,500

Appendix C – Ministry Comments

In this Appendix, ministries provide feedback to the Environmental Commissioner on articles contained in the main part of the Annual Report.

Part 2 – Engaging Provincial Solutions

2.1 Engaging Solutions on the Great Lakes

Ministry of the Environment:
Protecting Ontario's water, including the Great Lakes and our drinking water, is vital to the environment, our health and a strong economy. This is illustrated in MOE/Marbek's Economic Study, which highlights the significant returns from investing in Great Lakes restoration and protection.

The Great Lakes are shared among many jurisdictions. Protecting them requires that Ontario leverage critical partnerships with Canadian, U.S. federal and state governments, Aboriginal communities, municipalities and non-governmental organizations. MOE is using the results of its Healthy Great Lakes, Strong Ontario engagement to develop long-term priorities for Great Lakes restoration and to reflect Ontario's interests for the negotiation of key agreements, including integrating climate change adaptation in the Great Lakes Water Quality Agreement and Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA).

The Great Lakes Areas of Concern Beneficial Use Impairments Status Report demonstrates that through these partnerships considerable progress has been made in addressing environmental challenges in Areas of Concern (AOCs). The 2007-2010 COA Progress Report demonstrates that agencies are on-track to complete nearly all commitments under this COA as evidenced by progress made on upgrades to the remaining primary sewage treatment plants, the delisting of Wheatley Harbour and the clean-up of contaminated sediment in the Detroit River AOC and Beaver Dams Creek.

Ontario is also making significant progress in areas within its jurisdiction. Under the *Clean Water Act, 2006*, policies to protect water quality and quantity may result in co-benefits for the Great Lakes. The *Lake Simcoe Protection Act, 2008* will inform Great Lakes improvements and the *Water Opportunities Act, 2010* is driving innovation in the water technology sector. Ontario's long-term infrastructure plan – Building Together – recognizes the need to continue protecting Great Lakes ecosystems to develop sustainable opportunities that benefit the economy. MOE has strong approvals and enforcement powers, and uses a risk-based approach to ensure its laws and regulations are followed.

Ontario's forward-looking, comprehensive framework for water protection demonstrates that MOE, with its partners, has set a path forward for safeguarding our Great Lakes, now and for the future.

Ministry of Natural Resources:
Under the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem, MNR contributes to the provincial management of the Great Lakes. MNR provides provincial leadership for restoration, protection and conservation of natural aquatic habitat, aquatic species and invasive species. Fisheries management, water management and natural heritage planning and protection fall within the ministry's Great Lakes programs. MNR continues to provide leadership with these Great Lakes basin ecosystem management activities and will continue to collaborate with other ministries toward achieving provincial Great Lakes outcomes.

Ontario has demonstrated international leadership on Asian carp, and is working to prevent their entry into Ontario waters.

When the risk assessment conducted by Canada identified the live food fish industry as a vector for the introduction of Asian carp, MNR was one of the first agencies in the Great Lakes basin to ban the possession and sale of live Asian carp and initiate enhanced enforcement. Dead fish were not considered a risk. Penalties for possession of live Asian carp are set by the court. MNR prosecutors inform the court of the seriousness of the offence as part of penalty submission. Recent court rulings show they take these offences seriously. MNR works with the federal government on inspections of trucks carrying live fish into Ontario from the U.S. and has recently conducted a "simulation exercise" to test our readiness to respond to a confirmed sighting.

The Provincial Policy Statement, 2005 (PPS) is an important tool to protect natural heritage features, including wetlands, through the land use planning process. MNR is working with MMAH, OMAFRA and other ministries through the PPS 5-year review to assess the need for changes to the provisions for the protection of wetlands.

Ontario's wetland evaluation manuals provide a rigorous framework for the evaluation of wetlands and identification of provincially significant wetlands. The implementation of the evaluation framework is resource intensive. MNR will consider options that will help to address this, that are equally effective and scientifically defensible.

Ministry of Agriculture, Food and Rural Affairs:
Change in farm environmental practices has been remarkable since 2005. Based on Environmental Farm Plans, over 20,500 on-farm environmental projects have been completed since 2005, an investment of more than $310 million including almost $200 million of farmers' own funds. These projects include, for example, 1,350 nutrient management plans, 1,530 manure storages, and 1,350 riparian management projects. Analysis shows these environmental projects are targeted to priority risk factors in appropriate geographic areas.

Practices recommended in the Environmental Farm Plan workbook and supporting materials are based on proven science and practical implementation. The scientific literature documents the environmental benefits of the recommended practices. Greater adoption would no doubt achieve higher benefits.

Studies document that total phosphorus from manure and fertilizer applied to farmland in Ontario has declined since the 1980s. The amount of manure generated has declined, while adoption of nutrient management practices has increased. Research has documented the significant decline of the amount of fertilizer applied to farmland since the 1980s.

Phosphorus trends, risks and pathways are complex and different in different watersheds. While overall total phosphorus is declining, soluble, reactive phosphorus appears to be increasing in some areas. The exact mechanisms for this are still not clear and subject to ongoing research.

Livestock farms continue to be gradually phased-in to the *Nutrient Management Act, 2002* (*NMA*) as they expand or construct new buildings or storages within their operations. Currently, 3,046 farms are phased in to the *NMA*.

Ministry of Municipal Affairs and Housing:
The Provincial Policy Statement, 2005 (PPS) provides protection for provincially significant wetlands (PSWs) and coastal wetlands (section 2.1) and the *Planning Act* requires that all decisions affecting land use planning matters "shall be consistent with" the PPS. The Ontario Wetland Evaluation System (OWES) provides a standardized method of assessing wetland functions and societal values. Wetlands can be identified and evaluated by qualified professionals other than MNR staff, provided they use approved OWES methodology and have received MNR training. MNR reviews and approves these evaluations.

For unevaluated wetlands, additional guidance is found in the Natural Heritage Reference Manual (NHRM). NHRM section 6.3.1 notes that if an unevaluated wetland has characteristics or contains components that are typical of a significant wetland, the planning authority should ensure that a wetland evaluation is undertaken prior to processing any planning approvals.

Planning authorities may choose to apply some policy protection for wetlands that are not provincially significant, recognizing the benefit of the ecosystem functions wetlands provide.

Through the PPS five-year review, MMAH is working closely with MNR and other land use ministries to identify areas for potential revisions, including those related to the protection of natural heritage features such as wetlands.

Many ministries that are not signatories to the agreement, such as MMAH and MOI, collaborate on Great Lakes planning and work with MOE, MNR and OMAFRA in planning for the protection of the Great Lakes and in addressing environmental sustainability issues in the Great Lakes Basin.

The PPS includes policies directing planning authorities to protect, improve or restore the quality and quantity of water by ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces. As part of the PPS review, MMAH is working closely with MOE and other land use ministries to identify areas for potential revisions, including those related to stormwater management, water quality protection and water conservation.

2.2 *Far North Act, 2010*

Ministry of Natural Resources:
The *Far North Act, 2010*, sets out a joint land use planning process between First Nations and Ontario who will work together to decide which lands in the Far North will be protected and which will be open for sustainable economic development.

The government's commitment in the Far North places Ontario among world leaders in boreal protection and represents one of the largest land protection commitments in North America to fight climate change. Large and interconnected protected areas of the Far North are needed to maintain biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon and the protection of habitat for sensitive species. Protected areas will be identified through community based land use plans.

First Nations play a key role in the implementation of the *Far North Act, 2010*. MNR will be moving forward to engage First Nations in developing the Far North Land Use Strategy; and the Joint Body (equal representation of First Nations members and Ontario Officials) which has a role to play in the development of Far North policy statements. The government also recognizes the importance of funding to support planning, capacity building in First Nations, and the collection of both Aboriginal Traditional Knowledge and science information to provide a sound knowledge base for planning. To date, MNR has been able to provide funding to all First Nations communities and Tribal Councils that have come forward with an agreed-upon work plan for community engagement, mapping of planning areas, capacity building and community planning support.

2.2.1 Hydroelectric Development in the Far North

Ministry of Natural Resources:
Under the *Far North Act, 2010*, land use plans must be completed before most major development begins. The Act provides exceptions enabling planning and certain developments including waterpower, to occur concurrently, provided certain criteria are met: First Nations are supportive, a draft plan is complete or sufficient ecological information exists. MNR is working to align Crown land management for renewable energy with Far North planning and Ontario's Long-Term Energy Plan. This supports informed land use decisions, and where waterpower is permitted, provides for appropriate mitigation of adverse effects on lake sturgeon and flooding.

2.2.2 Growth Plan for Northern Ontario

Ministry of Natural Resources:
MNR sees significant benefits in setting out long-term, social, environmental and economic objectives for northern Ontario. The Growth Plan adds important context for natural resource policy development and the planning and management of Crown lands, waters and natural resources. Where there is a conflict between a growth plan and a community based land use plan under the *Far North Act, 2010*, then the land use plan prevails.

Part 3 – Biodiversity Matters

3.1 Ontario's Commercial Fisheries Policies

Ministry of Natural Resources:
MNR recognizes the importance of open and transparent policy development. MNR recently released the Strategic Policy for Ontario's Commercial Fisheries which sets the framework for the development of future operational policies and procedures. It details the goal, guiding principles and objectives of a well-managed, sustainable commercial fishery. Ontario will engage Aboriginal communities, organizations and key stakeholders in the development of future operational commercial fishing policies.

The management intensity of Ontario's commercial fishery across the province varies according to the complexity and the demand on the respective fishery resources. Similarly, the quality and quantity of data available on the commercial fishery also varies across the province. Lake Erie, for example, has the greatest amount of commercial fishing activity and therefore produces the most catch data and experiences the highest level of commercial fish management activity. MNR uses the best available science including, fisheries-independent surveys, lakewide stock assessment and monitoring. A number of decision analysis and stakeholder engagement initiatives to engage the public in transparent policy development are ongoing.

MNR is committed to advancing the development of commercial fish policies for Ontario including addressing bycatch. Currently, the collective sources of harvest of a species in a given management unit are taken into account when allocating commercial fish quotas. A provincial allocation policy would incorporate the commercial fishery, and all interests of the fisheries resources; including conservation, Aboriginal subsistence, and recreational and commercial users. All policies developed will be legally enforceable under existing legislation, including the *Fish and Wildlife Conservation Act, 1997*, the *Fisheries Act, 1985*, and the *Endangered Species Act, 2007*.

3.1.1 Missing in Action: Ontario's Oversight of Cage Aquaculture

Ministry of Natural Resources:
Ontario supports environmentally, socially, and economically sustainable aquaculture. MNR plans to complete the guidelines in 2012, which will provide science-based policy guidance for MNR, other regulators and applicants in approving and managing cage aquaculture licences in waters over Crown land. Each application is screened under MNR's Class Environmental Assessment for Resource Stewardship & Facility Development, taking into account environmental, social, cultural, economic and Aboriginal considerations. The *EBR* provides an exemption from posting these instruments (existing licensed sites) on the Environmental Registry. MNR takes a risk-based approach to site inspections for compliance with MNR's legislation.

Ministry of the Environment:
MNR and MOE are working collaboratively with stakeholders to improve policies, which will ensure the aquaculture industry operates in an environmentally sustainable manner. MOE has developed science-based

water quality limits that are protective of the environment and consistent with provincial wastewater effluent policy. MOE abatement/enforcement actions use a risk-based approach consistent with provincial priorities. MOE responds to environmental impacts at aquaculture operations on a site-specific basis. Operators are required to monitor, and MOE conducts additional monitoring when needed, including intensive site studies undertaken from 1998 to 2010.

3.2 Recovery of Species at Risk: Government Responses Inadequate

Ministry of Natural Resources:
Government Response Statements (GRSs) recognize that we all have a responsibility to protect and recover species at risk. MNR acknowledges this shared responsibility by seeking advice and assistance from outside experts and partners, and by including input from other ministries, other levels of government, stakeholders and the public in the process of drafting GRSs. To date, input has been gathered through targeted meetings, surveys and Environmental Registry postings.

GRSs are based on science. If the science does not exist to support a specific recovery target, a GRS cannot commit to that target.

Government demonstrates leadership through funding and advice to proponents on how to recover species, and by issuing permits and agreements that provide opportunities to learn and monitor progress. The use of stewardship funding strategically aligns with implementation of actions within GRSs.

MNR's Natural Heritage Information Centre (NHIC) added resources to address species at risk data. All data within NHIC has been loaded for 11 of 13 species identified in the report (with the remaining two being processed).

MNR is working on a policy framework to help set annual priorities for actions across species.

The Caribou Conservation Plan was Ontario's first GRS. MNR will commit an appropriate level of resources to prepare GRSs for other species at risk.

3.2.1 Snapping Turtles: To Hunt or Protect?

Ministry of Natural Resources:
Snapping turtles remain widespread and locally abundant in southern Ontario. MNR undertakes measures to ensure the species' long-term survival including prohibiting the commercial harvest of snapping turtles and protecting its wetland habitat. MNR is collecting information, including data on harvest through the recreational fishing survey, to support future management planning activities.

3.3 Wolf Conservation in Ontario: The Disconnect Between Science and Policy

Ministry of Natural Resources:
The management of eastern wolf is complex and MNR is at the forefront conducting research on eastern wolves. There continues to be scientific uncertainty about the status of the eastern wolf species and population. As research continues, new evidence will be reviewed and assessed. This collective knowledge will continue to help inform management decisions regarding wolf conservation.

The scheduling, under the *Fish and Wildlife Conservation Act, 1997*, of the eastern wolf as a Furbearing Mammal allows sufficient management flexibility to provide for their sustainability. Additionally MNR restricts hunting and trapping in parks and protected areas in order to protect species at risk consistent with the *Endangered*

Species Act, 2007 and regulations. The protection Ontario provides in Algonquin Provincial Park and surrounding townships preserves the largest known population of the eastern wolf.

3.4 Ontario Cougars: On the Prowl for Protection

Ministry of Natural Resources:
Prior to harvest operations, MNR placed six wildlife cameras in reported cougar sighting locations on the Nighthawk Forest. A biologist looked for evidence (e.g., tracks, scat) of a den site or cougar use in the area. The field investigation resulted in nothing that warranted a more significant ground search and after three months, the cameras did not provide any new information.

MNR is conducting provincial-scale research aimed at collecting quantitative data on the presence and distribution of the species in Ontario.

3.5 Woodland Caribou Conservation: Going Nowhere Fast

Ministry of Natural Resources:
MNR anticipates releasing its report on caribou range delineation by fall 2011. MNR has completed an estimate of caribou population for the province, along with two integrated range assessments that provide a more precise live body count and recruitment estimate. The 18-month implementation report outlining accomplishments to date will also be released by fall 2011.

3.6 Recognizing the Need for Green Infrastructure

Ministry of the Environment:
Through the *Water Opportunities Act, 2010* and related initiatives such as the Showcasing Water Innovation program, Ontario demonstrates leadership in promoting innovative water technologies, services and approaches, including green infrastructure. Ontario's infrastructure plan – Building Together – promotes green infrastructure as an innovative way to save costs by using natural processes like infiltration and evaporation to reduce the burden on built systems. The plan recognizes that green infrastructure has environmental benefits including removing contaminants, converting carbon dioxide to oxygen and providing natural habitat. MOE is working with MMAH during the review of the Provincial Policy Statement, 2005 (PPS) to ensure that it is effective in protecting provincial land-use planning interests and promoting sustainability principles and infrastructure policies that promote green infrastructure.

Ministry of Infrastructure:
MOI agrees with the need to prepare for challenges such as a larger and more urbanized population and the effects of a changing climate. On June 24, 2011, the province released a long-term infrastructure plan (Building Together), which will help current and future public infrastructure address these and other challenges.

There are many aspects of Building Together that align with the ECO's Annual Report, including: promoting the use of green infrastructure; developing a framework for planning water-related infrastructure on a watershed basis; making conservation and efficiency activities preconditions for infrastructure grants; improving the monitoring and reporting of the environmental performance of public infrastructure; and embedding climate change adaptation into asset management planning.

Ministry of Municipal Affairs and Housing:
The Provincial Policy Statement, 2005 (PPS) provides policy direction on matters of provincial interest related to land use planning. The policies and definitions in the PPS reflect the consolidated priorities of all ministries involved.

As part of the PPS review, consideration is being given to a range of matters including infrastructure.

To help Ontario achieve its commitment to reduce peak energy demand and create a culture of conservation, the 2006 Building Code included increased energy requirements for houses and large buildings. The Code also included a variety of measures to promote the use of green technologies such as solar panels, and allowing "greywater" to be used for certain purposes including flushing toilets. The Code has included water conservation requirements since 1994.

Ministry of Transportation:
MTO continues to look for ways to incorporate greener approaches in all of its transportation activities including through its environmental assessment (EA) process. The ministry's Class EA process requires the identification of impacts to the environment, including ecological and social impacts, and to minimize and mitigate them to the extent possible. Through EA commitments, MTO strives to implement innovative, approaches that address the objectives of green infrastructure.

The ministry continues to investigate stormwater management best practices through research to quantify the performance of roadside ditches as stormwater management swales and the introduction of new design standards for roadside ditches to enhance their stormwater quality control capabilities.

Part 4 – Planning Solutions

4.1 Connecting the Green Dots: The Natural Heritage Reference Manual

Ministry of Municipal Affairs and Housing:
The Provincial Policy Statement, 2005 (PPS) provides province-wide policy direction for land use planning, reflecting a balance between the goals of strong communities, a clean and healthy environment, and a strong economy. The government has developed support materials to help with its implementation and the balancing of provincial priorities. The Natural Heritage Reference Manual (NHRM) is an example of this type of support material.

The PPS provides that the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems should be maintained, restored, or, where possible, improved. The NHRM provides more guidance on the implementation of the natural heritage policies by planning authorities.

Regular reviews of the PPS are required by the *Planning Act*, and as part of the five-year PPS review, MMAH is working closely with MNR and other land use ministries to identify areas for potential revisions, including those related to identification and protection of natural heritage systems.

Ministry of Natural Resources:
MNR is delivering seminars and training sessions on the Natural Heritage Reference Manual to key audiences, particularly municipalities, to support and enhance implementation of the Provincial Policy Statement, 2005 (PPS). MNR is working with MMAH and other land use ministries on the review of the PPS. A key part of ensuring healthy resilient ecosystems in settled landscapes of Ontario is a consistent science-based approach for Natural

Heritage Systems design. MNR continues to promote such an approach through technical support for the Manual and PPS as well as participation in collaborative natural heritage systems projects.

4.1.2 Prepping the Land for Development: The Destruction of Natural Heritage Masquerades as a "Normal Farm Practice"

Ministry of Agriculture, Food and Rural Affairs:
The ECO presents no evidence to substantiate claims of destruction of natural features through "normal farm practices." The *Farming and Food Production Protection Act, 1998* has never been used to sanction the wholesale removal of natural features. OMAFRA advises farmers on woodland and wetland best management practices. OMAFRA welcomes any factual information about nature protection and farm practices. OMAFRA, MNR and other parties are developing a tree by-law template to address farm practices and woodlot protection.

4.2 Rules for Source Protection Plans Now in Place

Ministry of the Environment:
Initiating work under the *Clean Water Act, 2006* (*CWA*) in the areas with conservation authorities addressed a key finding of the Walkerton Commission, and also covers the more populated areas of the province; the current framework is protecting drinking water for the vast majority of Ontarians. MOE has also initiated four pilots in the north to inform future planning for systems outside the current source protection areas.

The *CWA* enables analysis and protection for the Great Lakes as a source of drinking water. Committees must assess risks and develop policies for threats in intake protection zones. Once these policies are better defined, the Minister of the Environment could establish broader Great Lakes targets.

MOE agrees the list of threats and instruments should be reviewed between planning cycles and will include this in its continuous improvement plan.

The *CWA* includes extensive opportunities for local public engagement at all stages of the source protection planning process, including public meetings and posting documents on the Internet so interested members of the public can comment directly to the committee carrying out the work. Links to local area websites can be found at: www.conservation-ontario.on.ca/source_protection/otherswpregionsindex.htm.

The Crown has invested ~$190 million to date, fully funding the cost of source protection planning and providing financial assistance for stewardship projects that help protect municipal drinking water sources. Over 2,000 stewardship projects have been funded to date. Once source protection plans are submitted, MOE will be able to evaluate financial implications of policies. When drafting policies, source protection committees must consider the costs of implementation and have been asked to ensure that policies are cost-effective, pragmatic and practical.

4.3 Lake Simcoe Phosphorus Reduction Strategy: Is it Enough?

Ministry of the Environment:
Human activities have had a significant impact on Lake Simcoe, and efforts to improve water quality have been on-going since the 1980s. The Strategy builds on these, and includes specific actions for each sector. MOE is amending Certificates of Approval for wastewater plants to reflect the new phosphorus caps; developing best management practices with the development and the farming communities; and, releasing stormwater masterplanning guidance for municipalities this fall. Research continues in partnership with the Lake Simcoe Region Conservation Authority and others. We will review and adapt the strategy in five years to better focus the actions as new advances in science and technology occur.

4.4 Lakeshore Capacity Assessment: Balancing Development and Water Quality in Cottage Country

Ministry of the Environment:
MOE is committed to establishing a tri-ministry working group (MOE, MNR and MMAH) to conduct a review every three to five years to enhance the effectiveness of the Lakeshore Capacity Assessment Handbook.

MOE created a two-day training module for the Lakeshore Capacity Model; the first course was offered in June 2011 and training is to continue in 2011/2012 throughout the province.

MOE will continue to explore options for achieving a more holistic approach to lake capacity management (as opposed to focusing on a single nutrient), including the application of best management practices. The phosphorus Provincial Water Quality Objective was published in 1979 and MOE will explore options for its review.

Ministry of Municipal Affairs and Housing:
MMAH will work with MNR and MOE to support municipal uptake of lakeshore capacity assessment and will work with MOE and MNR in any review of the Lakeshore Capacity Assessment Handbook.

4.5 Stormwater: Our Neglected Headwaters

Ministry of the Environment:
MOE is making progress on stormwater management. The *Water Opportunities Act, 2010* promotes integrated and sustainable infrastructure planning for stormwater, wastewater and drinking water. This will help encourage innovation and collaborative watershed-based approaches for water infrastructure.

Further work is underway to develop additional guidance, support demonstration projects and provide funding for innovation. MOE's website provides information to encourage innovative stormwater management and low-impact development (e.g., permeable pavement, green roofs), and recognizes the importance of both green and conventional infrastructure.

MOE will continue to work with partners to improve stormwater management, including working with MMAH on revisions to the Provincial Policy Statement, 2005 and with MOI on the long-term infrastructure plan – Building Together – which recognizes green infrastructure and low-impact development for stormwater management and promotes improved asset management and financial planning.

Ministry of Natural Resources:
MNR is a partner with MOE in the Natural Resources Canada Regional Adaptation Collaborative. The Gateway project supports climate change adaptation, including stormwater management. The Toronto and Region Conservation Authority is participating in a pilot project with MNR to ensure accessible data to inform stormwater management.

MNR and MOE continue to collaborate on many water-related programs. MNR has supported the MOE-led Source Water Protection Program by developing water budget and water quantity risk assessment tools. MNR also produces climate and watershed based datasets and tools that can support stormwater management decision making.

Stormwater management ponds are recognized in the technical compendium Adaptive Management of Stream Corridors in Ontario, Natural Hazards Technical Guides, 2001 in support of the natural hazards policies (3.1) of the Provincial Policy Statement, 2005 of the *Planning Act*.

4.6 Before the Flood: Conservation Authorities' Vital Role in Land Use Planning

Ministry of Natural Resources:
As part of MNR's responsibility for protecting Ontarians from the impacts of water-related hazards including flooding, MNR is assessing its supporting technical and analytical tools for their adequacy in anticipation of climate change impacts. In 2010, MNR, with matched municipal funding, provided $24.46 million to the 36 conservation authorities for natural hazard prevention.

4.7 When Two Worlds Collide: Cottages in Rondeau Provincial Park

Ministry of Natural Resources:
The ministry continues to work with the cottage leaseholders in Rondeau Provincial Park to ensure the protection of the Park's unique environment. Recent efforts have been successful in gaining the co-operation of many of the leaseholders to comply with lease conditions and remove off-lot structures. The ministry will continue to use a suite of approaches, including enforcement action, to gain compliance from all leaseholders.

Part 5 – Getting on with the Business of the Environment

5.1 Less and Less: Budgets for MOE and MNR Not Meeting Needs

Ministry of the Environment:
MOE is committed to protecting the environment and health of Ontarians while being fiscally responsible. MOE remains dedicated to its core programs and continuously looks for ways to more efficiently and effectively deliver on its mandate and, at the same time, respond to the current fiscal climate.

For example, MOE is finding improvements through partnerships, including a one-window approach to source protection planning with MNR, and working with ministries to develop a co-ordinated approach for environmental clean-up. As the ECO notes, streamlining operations through the Modernization of Approvals has the potential to dramatically reduce burdens for both business and MOE.

MOE remains confident in its ability to effectively deliver core programs. MOE's inspection and abatement program applies a multi-year approach to target higher risk, more complex facilities and sectors. For example, MOE inspects municipal wastewater facilities on a 4-year cycle and has a multi-year program to assess all Ontario landfills. Our provincial oversight also includes a range of tools including education, assistance and outreach. Through online public reports, MOE keeps Ontarians informed of discharges and spills.

Ministry of Natural Resources:
MNR supports the government's efforts to manage expenditures. The ministry continues to play a lead and vital role in protecting Ontario's natural resources and ensuring their sustainable use.

The ministry is focused on delivering government priorities, *Endangered Species Act, 2007* (*ESA*) and Far North programs, and maintaining our core business and services to the public in a fiscally responsible manner. We are striving for a balanced approach and are continually looking for opportunities to modernize the delivery of our business and core front-line services and make progress in key areas. In September 2010, the government announced an additional $10 million investment over two years in Far North community land use planning; and more recently, the 2011-12 Provincial Budget allocated additional funding of $1.25 million to MNR to support improvements in *ESA* permitting processes.

5.2. Modernization of MOE's Approvals Framework

Ministry of the Environment:
The registration process includes clear and consistent requirements for prescribed activities, making the process more straightforward and providing clarity to businesses eligible to register with regard to environmental requirements. A multi-step, transparent process has been implemented to assess the risk for those activities that are being considered for the registration process. The approach defines regulatory requirements, in consultation with stakeholders, that must be met in order for an activity to be eligible to register as well as operating requirements to maintain compliance without compromising environmental standards. Registry regulations contain specific provisions for mandatory updates and confirmation of registry information. In addition, new compliance tools were added including the ability for the Director to remove a business from the registry as a result of compliance related issues.

MOE will implement a phased approach to updating approvals, in consultation with stakeholders.

The compliance and enforcement approach for prescribed activities will be risk-based and will draw on international 'good' practice and on the full and growing range of regulatory tools available. Inspection has, and will remain, an important part of our regulatory toolkit. It will be complemented by other regulatory tools to assess, encourage and, where necessary, bring facilities into compliance. The approach will focus on ensuring that businesses know what they need to do (e.g., outreach), monitoring what they are doing (e.g., self-assessment, desk audit and inspection), and taking enforcement action proportionate to the potential or actual environmental impact. The approach will be supported by a new electronic tracking system to better manage approvals related information for compliance purposes.

Once fully implemented the new approvals process will enhance public transparency and improve service to business while maintaining environmental standards and better positioning MOE to look at applications more holistically, considering all potential environmental impacts.

5.3 What a Waste: Failing to Engage Waste Reduction Solutions

Ministry of the Environment:
Waste diversion provides economic and environmental benefits and is a government priority. However, regulating waste has always been challenging since there are multiple actors, a global marketplace and a wide range of legal and business relationships that must be considered.

Extended producer responsibility (EPR) is one way to encourage waste reduction and diversion. This approach, like others, has consequences for the actors involved in waste management, from producers to consumers to municipalities to waste management service providers.

MOE has been considering this broader waste reduction and diversion context, including EPR, through its review of the *Waste Diversion Act, 2002* (*WDA*). Through the review, MOE has consulted extensively and received input on various proposals. MOE is evaluating this feedback and assessing the specific changes which would create the right mix of tools to promote waste reduction and diversion, including the appropriate evolutionary steps on EPR. These changes must ensure that all environmental and economic costs and benefits associated with waste are captured, and that all consequences of any policy direction are fully considered.

While MOE reviews the feedback, it has taken steps to make the framework more effective and accountable, such as asking Waste Diversion Ontario to refocus its board to make members reflect the skills needed to oversee waste diversion programs and avoid potential conflicts of interest.

We also continue to work with partners to increase diversion, such as through expanded *WDA* programs, the Ontario Deposit Return Program, Canadian Council of Ministers of the Environment efforts to work with industry to optimize packaging reductions, ministry-led consumer and industry outreach ("Waste Navigator"); and, support initiatives like the Recycling Council of Ontario's "zero waste toolkit" to encourage green festivals and events and the 3Rs certification program being developed to encourages businesses to improve waste diversion.

5.4 Missed Opportunities under the *Water Opportunities Act, 2010*

Ministry of the Environment:
Ontario is making progress in implementing the *Water Opportunities Act, 2010*. The Water Technology Acceleration Project is being established (O. Reg. 40/11) to bring together key partners in the water industry. A new $17 million Showcasing Water Innovation program is supporting community projects that demonstrate the use of innovative water technologies and approaches, including conservation. Lessons learned will be shared.

Ontario announced that 85 rural and northern communities will receive more than $40 million through the first intake of phase three of the Ontario Small Waterworks Assistance Program (OSWAP-3). A key factor was how well projects addressed conservation and efficiency. Work is underway to identify best practices in planning for municipal water sustainability and financial sustainability. MOE will continue promoting water conservation with municipalities and industry.

5.5 Cleaning Up the Ozone File

Ministry of the Environment:
MOE appreciates the ECO's supportive comments regarding the benefits of consolidation and the new halon restrictions. The consolidated regulation addresses most of Ontario's ozone depleting substances stock. Smaller refrigeration equipment is naturally phasing out as chlorofluorocarbons have not been permitted in new products since the early 1990s.

MOE will continue to monitor the use of refrigerant alternatives to minimize environmental impacts.

Part 6 – Emerging Issues

6.1 Shale Gas and Hydraulic Fracking

Ministry of the Environment:
Presently there is no indication that Ontario hosts economic reserves of shale gas and there are no proposals for shale gas drilling or extraction. However, Ontario has a well-defined regulatory framework to manage drilling and production of oil and gas and associated environmental impacts should commercial-scale quantities of shale gas be proven to exist.

Ontario has a range of groundwater monitoring, protection and management programs that could help inform decisions pertaining to shale gas exploration and production. MOE regulates water takings through its Permit to Take Water program to prevent unacceptable impacts on the ecosystem or other water users, including existing public and private water supply wells.

The areas identified as having shale gas potential fall within the areas already being assessed for drinking water vulnerability through the *Clean Water Act*'s source protection planning process. This information will help inform decision making on any future shale gas development.

With respect to the risks of drilling in areas with hazardous wastes, MOE has a list of confirmed Hazardous Waste Disposal sites which will inform decisions about appropriate locations for shale gas exploration and extraction.

MOE and MNR will continue to collaborate as necessary to address issues that may arise.

Ministry of Natural Resources:
Ontario has a rich history in oil and gas exploration and development. As a result, MNR has a well-defined regulatory framework to manage drilling and production of oil and gas which includes knowledge of 27,000 wells.

At this time, there is no indication that Ontario hosts economic reserves of shale gas. Shale gas is not being extracted anywhere in the province and there are no proposals before MNR requesting shale gas drilling or extraction.

The Ontario Geological Survey is conducting routine preliminary assessment of bedrock in southern Ontario to assess its potential to host shale gas.

MNR looks forward to reviewing the findings of the United States' Environmental Protection Agency's study on the potential impact of hydraulic fracturing on human health and the environment (expected to be available in 2012) and the results of Quebec's environmental study of shale gas activities.

6.2 The Roots of Sustainability: Engaging the Soil Carbon Solution

Ministry of Agriculture, Food and Rural Affairs:
Building and maintaining soil organic matter (SOM) is key to healthy soil ecosystems and productive farmland. This objective is integrated into advice, programs, funding, and research supported by OMAFRA. OMAFRA appreciates the ECO's interest in soil health issues and drawing public attention to soil issues.

SOM is important to all farmers, not just organic farmers. OMAFRA provides recommendations for all production systems.

Energy from agricultural biomass presents challenges and opportunities. Perennial energy crops offer potential for building SOM. Crop residue removal potential must be limited to levels that sustain SOM. OMAFRA and other stakeholders are directly involved in work on these issues.

More research is needed on the agronomic benefits of biochar in temperate climates like Ontario before recommending it for building SOM and sequestering carbon. OMAFRA is collaborating on some research into biochar.

Soil ecosystem health transcends SOM. OMAFRA supports many soil research projects including one assessing potential Ontario use of a soil health assessment method from Cornell University.

Soil carbon may have a role in climate change mitigation but science shows conservation tillage will play a limited role in mitigation in Ontario. Reduced tillage has many other environmental and agronomic benefits. Significant issues remain regarding soil carbon sequestration including soil organic carbon (SOC) measurement, especially changes in SOC over time, soil carbon balance and permanence (e.g., risk of reversals).

Part 7 – Public Concerns Raised: Applications

7.1 Reviewing the *Environmental Bill of Rights, 1993:* An Opportunity for Renewed Engagement

Ministry of the Environment:
The *Environmental Bill of Rights, 1993* (*EBR*) represents an important milestone in Ontario's environmental legislation and has remained central to public engagement and transparency in environmental decision making over the last 18 years.

MOE agrees with the applicants that the *EBR* remains generally sound and does not warrant a wholesale review or reconsideration of the Act in its entirety. Based on preliminary consideration of the application, MOE has concluded that a focused review of certain components of the *EBR* is in the public interest.

MOE will take into consideration the ECO's current and previous commentary and reports on the *EBR* during the course of this review.

7.2 Tapping into the Oak Ridges Moraine

Ministry of Municipal Affairs and Housing:
The Oak Ridges Moraine (ORM) Plan policies protect water features and systems within its regulated boundary through municipal decisions on land use planning applications.

MMAH is actively involved in Plan implementation through:

- Ministerial review and approval of conformity documents
- Participating on watershed technical review committees and Ontario Municipal Board hearings
- Release of Oak Ridges Moraine technical guidance documents

The co-ordinated Oak Ridges Moraine-Greenbelt-Niagara Escarpment Plan reviews in 2015 will build on the review of the Provincial Policy Statement, 2005 currently underway. MMAH will work closely with MOE and other land use ministries to identify areas for potential revisions, including water protection policies.

7.2.1 The Oak Ridges Moraine Foundation

Ministry of Municipal Affairs and Housing:
The $20 million investment in the Friends of the Greenbelt Foundation enables it to leverage further investments supporting agriculture, tourism and environmental integrity across the entire Greenbelt, including the Oak Ridges Moraine and Niagara Escarpment.

7.3 Toilets in Parks: Peering into the Vault

Ministry of the Environment:
In conducting the investigation, MOE reviewed the Ontario Parks environmental park management system and inspected all parks referenced in the *Environmental Bill of Rights, 1993* application. Ontario Parks conducts sanitation audits on a three-year cycle at every park, using a comprehensive guide. MOE inspections were carried out to ensure the specific sewage systems were maintained to meet maximum daily sewage flow as approved by MOE. MOE routine inspections of parks are conducted using a risk-based approach.

Ministry of Natural Resources:
The ministry has complied with the required actions resulting from the MOE investigation conducted in 2010 into the septic systems at 12 parks. In March 2011, the ministry shared the investigation results with all operating parks. Park Superintendents were advised that all operating parks must comply with the ten required actions identified.

7.4 The MISA Wastewater Regulations: A Review is Overdue

Ministry of the Environment:
The Municipal-Industrial Strategy for Abatement (MISA) industrial regulations continue to provide environmental protection and have resulted in sharp drops in contaminant loadings and effluent toxicity from regulated industries. MOE's approval and abatement programs also ensure that additional requirements can be imposed and enforced.

MOE continues to work on improvements for managing municipal wastewater under the Canadian Council of Ministers of the Environment Municipal Wastewater Strategy, including engaging with the federal government on a regulation that would mandate secondary treatment and action on chlorine and ammonia toxicity, and future policy to reduce industrial effluent to sewers.

Other initiatives including the implementation of the *Toxics Reduction Act, 2009* and the development/ commercialization of new water technologies through implementation of the *Water Opportunities Act, 2010* will help further reduce discharges from industrial and municipal sources.

7.5 Up the Creek Without a Paddle: Confirming Historic Canoe Routes

Ministry of Natural Resources:
MNR applied section 63 of the *Environmental Bill of Rights, 1993* in relation to this request and responded with a notice of determination.

MNR does identify important canoe routes and portages as values and where appropriate includes protection measures when developing and implementing forest management plans.

Part 8 – The *Environmental Bill of Rights, 1993* in Practice

8.1 Keeping the *EBR* in Sync with New Laws and Government Changes

Ministry of Agriculture, Food and Rural Affairs:
OMAFRA consulted broadly on proposed animal health legislation including through the Environmental Registry and will continue to post notice of proposals for environmentally significant regulations. Prescribing the *Animal Health Act, 2009* under the *Environmental Bill of Rights, 1993* for all environmentally significant regulations, applications for review and investigation, is not appropriate given the Act's varied purposes and subject matter.

Ministry of Municipal Affairs and Housing:
Posting all amendments to the Building Code regulation on the *Environmental Bill of Rights, 1993* could cause delays in amending the Building Code where changes are made to the requirements affecting issues of public safety. MMAH currently has a well-defined and transparent method of consulting on proposed Code changes which provides opportunities for the Ontario public to contribute to decision making.

Ministry of Natural Resources:
MNR is committed to prescribing the *Far North Act, 2010* under the *Environmental Bill of Rights, 1993*. Seeking opportunities to post notices on the Environmental Registry will continue to be a priority.

Some MNR instruments are not prescribed, given the consultation opportunities provided through other processes, such as MNR's Class Environmental Assessments and water management planning.

Ministry of Tourism and Culture:
Since 2006, MTC has maintained it will not prescribe the Ontario Heritage Trust (OHT) for *Environmental Bill of Rights, 1993* (*EBR*) purposes. MTC's rationale is that ministries are responsible for policy matters within the scope of the *EBR*. Since MTC is prescribed, it is not appropriate that the OHT, an agency that administers and implements MTC policies and programs, be prescribed.

8.2.1 Open for Business, Closed to Public Comment: Omnibus Legislation and the *EBR*

Ministry of Economic Development and Trade:
MEDT recognizes the importance of effective consultation. Throughout the development of the *Open for Business Act, 2010*, stakeholders were consulted and had the opportunity to provide input as part of public consultation and public hearings. The Act introduced proposed amendments to various legislation. No proposed amendments to statutes administered by MEDT were of environmental significance. Proposed amendments to statutes administered by other ministries were posted where they had environmental significance. MEDT remains committed to meeting its obligations under *Environmental Bill of Rights, 1993* when making decisions that might significantly affect the environment.

Ministry of the Environment:
MOE is committed to ensuring that there is sufficient opportunity for public notice and consultation on the Environmental Registry. In regard to proposed legislative amendments related to the Modernization of Approvals initiative, MOE sought to maximize the opportunities for public comment by posting a discussion paper on the proposed framework prior to introduction followed by a proposal notice. MOE continues to make every attempt to, in a timely manner, post relevant legislation once it has been introduced in the Legislature.

Ministry of Natural Resources:
MNR will continue to post proposed amendments to legislation that are environmentally significant to the Environmental Registry.

8.2.2 Don't Leave Them Hanging: *ESA* Instrument Proposals on the Environmental Registry

Ministry of Natural Resources:
MNR has streamlined its standard submission process to reduce delays in posting decision notices for permits and agreements. To improve transparency and supplement what is available on the Environmental Registry, MNR will post additional information about every permit and agreement on the ministry website.

8.3 Reviews of Unposted Decisions

Ministry of Natural Resources:
The Declaration Orders require MNR to maintain the Provincial Wildlife Population Monitoring Program Plan and make it available to the public. As added to the updated program plan (2010), MNR will undertake annual program reviews and more formal reviews every five years. The first review of the 2010 program plan will be posted on the Environmental Registry seeking public input.

MNR will also discuss the ECO's comments regarding posting proposals and decisions during the current amendment process for the Declaration Orders.

Ministry of Northern Development, Mines and Forestry:
MNDMF is committed to fulfilling its legal responsibilities to consult the public on environmentally significant policies, acts or regulations and will continue to post accordingly on the *Environmental Bill of Rights, 1993*. As was stated in the ministry's letter to the ECO of April 11, 2011, the only amendment of environmental significance was included in the workbook entitled "Ontario's New Mining Act, Workbook on Development of Regulations," which was available for comment for a period of 130 days. No notice of decision has been posted on the Registry because many of the proposals contained in the workbook have not yet been implemented.

8.4 Use of Information Notices

Ministry of Natural Resources:
MNR will use the comments received from the information posting, along with input gathered during five facilitated public meetings and face-to-face discussions, to inform development of a draft caribou habitat regulation which will be posted as a proposal notice on the Environmental Registry. MNR will provide several more opportunities for public and Aboriginal input and comment in this multi-stage consultation process, and the Environmental Registry will continue to be part of that.

Abbreviations

°C	degrees Celsius
µg/l	micrograms/litre
3Rs	reduce, reuse, recycle
AOU	Area of the Undertaking
C of A	Certificate of Approval
CCL	Community Conservation Lands
CCME	Canadian Council of Ministers of the Environment
CFCs	chlorofluorocarbons
CFSA	*Crown Forest Sustainability Act, 1994*
Class EA	Class Environmental Assessment
CLTIP	Conservation Land Tax Incentive Program
CO_2	carbon dioxide
COA	Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CWA	*Clean Water Act, 2006*
DNA	deoxyribonucleic acid
EA	Environmental Assessment
EAA	*Environmental Assessment Act*
EBR	*Environmental Bill of Rights, 1993*
ECO	Environmental Commissioner of Ontario
EFP	Environmental Farm Plan
ENG	Ministry of Energy
EPA	*Environmental Protection Act*
EPR	extended producer responsibility
ERT	Environmental Review Tribunal
ESA	*Endangered Species Act, 2007*
FMPs	Forest Management Plans
FMUs	Forest Management Units
FWCA	*Fish and Wildlife Conservation Act, 1997*
GHG	greenhouse gas
GLRI	Great Lakes Restoration Initiative
GLWQA	Great Lakes Water Quality Agreement
GRS	Government Response Statement
ha	hectare
HCFCs	hydrochlorofluorocarbons
IC&I	industrial, commercial and institutional
IFO	industry funding organization
IPI	individual producer responsibility
km^2	square kilometres
LSPP	Lake Simcoe Protection Plan
MCS	Ministry of Consumer Services
MEDT	Ministry of Economic Development and Trade
MEI	Ministry of Energy and Infrastructure
MHSW	Municipal Hazardous or Special Waste
MISA	Municipal-Industrial Strategy for Abatement
MMAH	Ministry of Municipal Affairs and Housing
MNDMF	Ministry of Northern Development, Mines and Forestry
MNR	Ministry of Natural Resources
MOE	Ministry of the Environment
MOI	Ministry of Infrastructure
MTC	Ministry of Tourism and Culture
MTO	Ministry of Transportation
MW	megawatts
NAN	Nishnawbe Aski Nation
NAP	National Action Plan
NH_3	ammonia
NHIC	Natural Heritage Information Centre
NHRM	Natural Heritage Reference Manual
NHS	Natural Heritage System
NMA	*Nutrient Management Act, 2002*
NRVIS	Natural Resources and Values Information System
O. Reg.	Ontario Regulation
OCFA	Ontario Commercial Fisheries Association
ODSs	ozone depleting substances
ODWSP	Ontario Drinking Water Stewardship Program
OGSRA	*Oil, Gas and Salt Resources Act*
OHT	Ontario Heritage Trust
OMAFRA	Ministry of Agriculture, Food and Rural Affairs
OMB	Ontario Municipal Board
OPA	Ontario Power Authority
OWES	Ontario Wetland Evaluation System
OWRA	*Ontario Water Resources Act*
PPCRA	*Provincial Parks and Conservation Reserves Act, 2006*
PPS	Provincial Policy Statement, 2005
PSW	Provincially Significant Wetland
PTTW	Permit to Take Water

PWQO	Provincial Water Quality Objective(s)
SARA	*Species at Risk Act* (federal)
SDWA	*Safe Drinking Water Act, 2002*
SEV	Statement of Environmental Values
SOM	soil organic matter
SP area	source protection area
SP authority	source protection authority
SP committee	source protection committee
SP region	source protection region
SPAs	Special Purpose Accounts
STP	sewage treatment plant
ToRs	Terms of Reference
TSSA	Techical Standards and Safety Authority
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
WaterTAP	Water Technology Acceleration Project
WDA	*Waste Diversion Act, 2002*
WDO	Waste Diversion Ontario
WEEE	Waste Electrical and Electronic Equipment
WMP	Water Management Plan
WOA	*Water Opportunities Act, 2010*
WOWCA	*Water Opportunities and Water Conservation Act, 2010*

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